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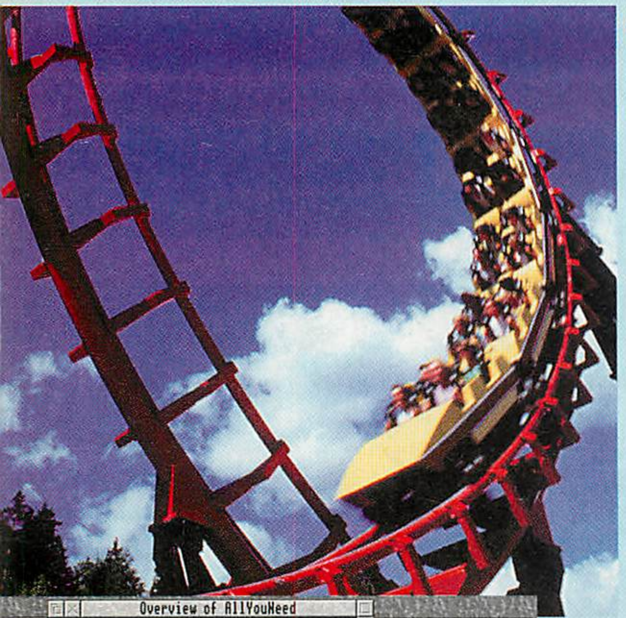
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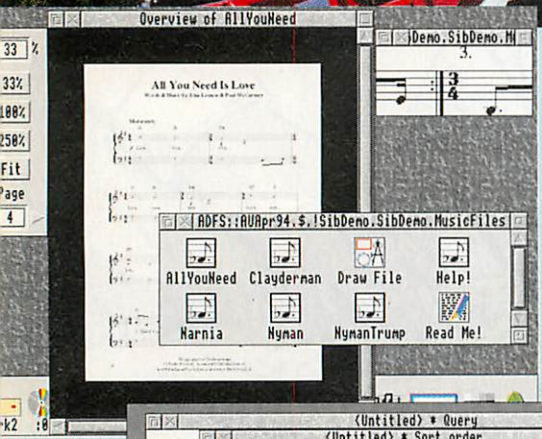
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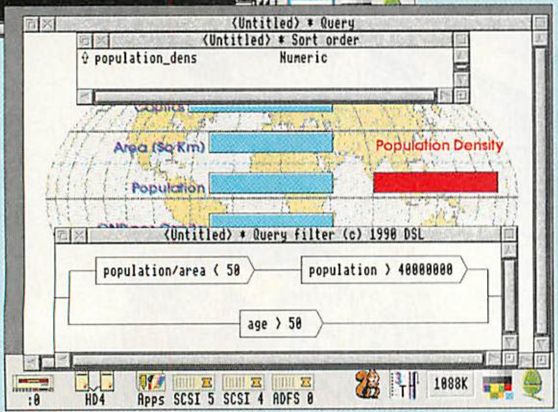
CONTENTS



31 It's showtime



28 The cover disc



46 Databases compared

REGULARS

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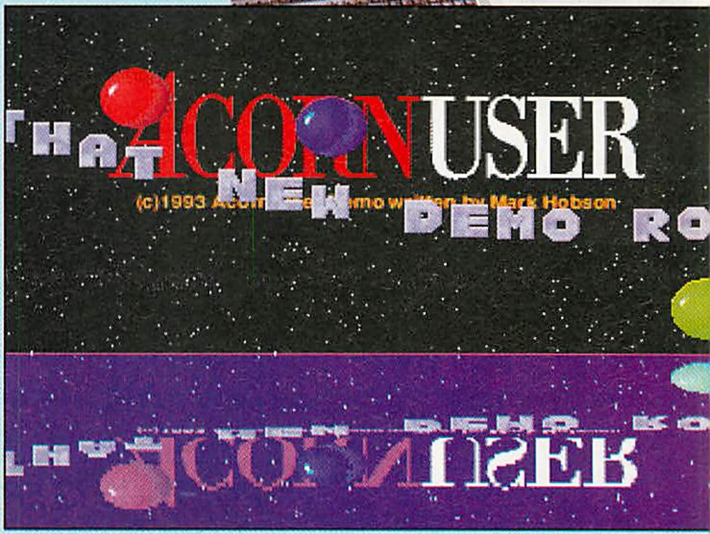
FEATURES

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HANDS ON







Next issue on sale 28 April

Editor's letter

Last year we launched the *Acorn User* Spring Show. Many of you will remember it: it proved that the Acorn scene is not confined to London and the south, and the response was fantastic. Anyone who went will be glad to hear that the Spring Show is back, and it's even bigger and better than last year.

All the biggest names in the Acorn world have booked their stands, so if you want to see all the latest products – like the Eagle card and Irlam hand scanner reviewed in this issue – don't miss out. We promise that this is a show not to be missed

And don't forget to visit the *Acorn User* stand. See you there!

Mark Moxon,
Editor

ICS

051-625 1006

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APRIL 1994

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Optical Professional *Neurotron* £101
Optical Standard *Neurotron* £50
Orion *Minerva* £9
Orrery *Spacetech* £93
Ovation *RISC* £84
Overload *Clares* £13
Oxford Reading Tree Stage 2 Story Books, age 5-7 *Sherston* vo £9
Oxford Reading Tree Stage 2 Talking Stories, age 5-7 *Sherston* £37

Pacmania *Krisalis* £9
Padlock *ICS* £10
– site licence £30
Pandemonium, KS1,2 *Topologika* £34
Pandora's Box *Fourth Dim* £18
Pappus *Computer Tutorial* £17
Payroll Manager *Silicon* £79
PC Emulator 1.8 *Acorn* £95
PDT *Oak* £149
PenDown, KS1-3 *Longman* £46
PenDown Etoiles, KS3,4 *Longman* £46
PenDown Outline Fonts *Longman* £17
PenDown Plus, KS2-4 *Longman* £67

NO CHARGE FOR CREDIT CARDS

Personal Accounts V2 *Apricote* £29
Perspectives *TechSoft* £54
Phonic Games *Fisher-Marriott* £28
Photopia *CIS* £POA
Picture Book *Triple R* £15
Picture It! *Appian* £29
– Topic discs each £9
PIMS *Longman* £339
PinPoint 2, KS3,4 *Longman* £84
– site licence £340
PipeDream 3 *Colton* £72
PipeDream 4 *Colton* £97
PipeDriver Dot 1 *ICS* £10
Pipe Mania *Empire* £18
Pirate, age 8-14 *Chalksoft* £19
Placard *ICS* £10
– site licence £30
Plague Planet *Alpine* £13
PlayBack *RISC* £18
Play It Again Sam 1 *Superior* £20
Play It Again Sam 2 *Superior* £20
Plot *Clares* £65
Podd, KS1,2 *ESM* £27
Podd – Welsh, KS1,2 *ESM* £40
Polyominoes *Topologika* £24
Populous *Krisalis* £22
Poster *4mation* £75
PowerROUTER *Silicon* £159
Powermonger *Krisalis* £22
Prehistoric Animals, sprites *Micro Studio* £16
Premier *Circle* £71
– DataBase *Circle* £25
– WordProc *Circle* £25
Premier Manager *Gremlin* £21
Presenter GTi *Lingenuity* £66
Primary Nature *Oak* £44
PrimeArt, KS1-4 *Minerva* £58
PrimeMover, KS2-4 *Minerva* £89
PrimeSolver, KS1-4 *Minerva* £74
PrimeWord, KS2-4 *Minerva* £51
Printer Drivers, RISC OS:
Canon BubbleJet, Canon LBP, Canon PJ1080, ColourCel, Epson JX, Epson ESC-P2, HP, Integrex 132 – each *Oak* £15
Deskjet 500C, Epson / Star colour – each *RISC* £15
ProDrivers: Canon LBP8, Epson ESC-P2, HP Colourjet – each *Oak* £33
TurboDrivers: Canon, Epson Stylus 800, HP – each *CC* £42
Printer Spooler *Oak* £68
ProArtisan 2 *Clares* £102
ProCAD, KS4 *Minerva* £450
Programming in ANSI Standard C on the Archimedes *Sigma* vo £15
Prophet (requires 2 Mb) *Apricote* £145

ICS

051-625 1006

Prophet Entry Level *Apricote* £10
ProSHEET *Silicon* £36
Protext *Arnor* £117
Provocator *Computer Tutorial* £15
Puncman 1 and 2 *Chalksoft* £17
Puncman 3 and 4 *Chalksoft* £17
Puncman 5 to 7 *Chalksoft* £18
Punctuate *Xavier* £31
Punctuate! *Topologika* £20

QDBug *Vertical Twist* £68
QPaint *CIS* £POA
Quark *Oregan* £22
Quest for Gold *Krisalis* £19
QuicKey *ICS* £10
– site licence £30

Raw Power II *GamesWare* £16
Really Useful CD Rom Vol.2 *APA* £48
Real McCoy 2 *Fourth Dim* £23
Real McCoy 3 *Fourth Dim* £23
Real McCoy 4 *Fourth Dim* £27
Recall, age 8-13 *Sherston* £37
Redshift *Minerva* £11
RemoteFS Parallel Port *Atomwide* £50
Render Bender 2 *Clares* £41
Rephorm *Oak* £47
Report Writer KS1/2 *Creative* £48
Report Writer KS3/4 *Creative* £48
Repro *Oak* £46
Repton 3 *Superior* £19
Resultz *Colton* **£97**
– secondary site licence £470
Revelation *Krisalis* £9
Revelation 1, KS2-4 *Longman* £33
Revelation 2, KS2-4 *Longman* £65
Revelation 2 CD Rom *Longman* £84
Revelation ImagePro *Longman* £118
Reversals *Chalksoft* £17
Rhapsody 2 *Clares* £44
Rhapsody 3 *Clares* £78
Rhythm-Bed *Clares* £38
RhythmBox II, age 8+ *EMR* £34
RiscBASIC Compiler *Silicon* £77
RiscForth Compiler *Silicon* £72
RISC OS 3 First Steps *Dabs* vo £15
RISC OS 3 Programmer's Reference Manual *Acorn* vo £105
RISC OS Style Guide *Acorn* vo £13
RoboLogo *Silicon* £38
Round the World Yacht Race, age 9+ *Storm* £25

Saloon Cars Deluxe *Fourth Dim* £25
– Deluxe Extra Courses £14
Saxon Life, KS2 *Oak* £42
S-Base 2 Developer *Longman* £193
S-Base 2 Developer Plus *Longman* £322
S-Base 2 Personal *Longman* £109
S-Base Network *Longman* £254
Schedule *Acorn* **£18**
Schema 2 *Clares* £99
Science, drawfiles *Micro Studio* £25
Score Draw *Clares* £44
Scorewriter PMS Desktop, age 12+ *EMR* £147
ScreenPlay *Widgit* £35
Search and Rescue, age 9+ *Storm* £27
Seashore Guide, drawfiles *Micro Studio* £16
Seelinks – Ourselves, KS1,2 *ESM* £30
Seelinks – Pond Watch, KS2 *ESM* £37
Seelinks – Tourism, KS3 *ESM* £55
Seelinks – Transport, KS2 *ESM* £37
Sellardore Tales, age 10-12 *Sherston* £24

For ordering details please turn to page 4

ICS

051-625 1006

Product	Publisher	Price
Sensible Soccer	Renegade	£21
Serenade	Clares	£84
Serpents	CIS	£POA
Settlement, KS3	ESM	£34
ShapeFX	Data Store	£10
ShareHolder	Silicon	£96
ShareHolder Professional	Silicon	£164
Shares	Apricote	£33
ShowPage	CC	£143
Shylock Gnomes, age 10-15	Selective	£16
Sim City	Krisalis	£22
Simon the Sorcerer	GamesWare	£31
SkyHunter, KS2	Longman	£21
Sleuth	RISC	£42
Small	Virgo	£20
smArt	4mation	£50
smArt Aliens, Animals, Dinosaurs, Egypt, Europe†, Faces*, Fantasy, Fashion, Fiddles & Drums, Heraldry, Homes*, Leisure*, Look Smart, Smartoons, Trees and Gardens *English/French/German/Spanish/Welsh; †English/French/German; please specify each	4mation	£15
smArtFiler	4mation	£32
smArt Modern Languages	4mation	£19
Smudge the Spaniel, age 4-8	Storm	£20
Snippet	4mation	£32
Soapbox	Xavier	£34
SolidCAD	Silicon	£77
SolidsRender	Silicon	£77
SolidTools	Silicon	£204
– education price		£194
Somerset Talking Computer Project Learning Materials	Longman	vo £29
SongBook, age 3-10	EMR	£24
Sound Engineer, age 12+	EMR	£59
Sound-FX Maker	CIS	£POA
Sound-FX Maker & Photopia	CIS	£POA
Sounds & Rhymes	Xavier	£29
SparkFS	David Pilling	£21
Sparkle	Morley	£59
Special	ICS	£10
– site licence		£30
Speech!	Superior	£18
Spell	David Pilling	£9
Spelling week-by-week	Chalksoft	£20
Spex	Aspex	£98
Spheres of Chaos	Matt Black	£19
Splash, age 7-11	Sherston	£19
Splice	Oak	£28
Split an Image, age 7-16	Sherston	£16
Spoken Word	Wyddfa	£18
Spooler (Clares)	Clares	£12
Spooler (Comp Tut)	Computer Tutorial	£9
Sporting Triangles	CDS	£20
SportsDay	Selective	£20
SportsPeople	Selective	£20
Sprite Editor	Computer Tutorial	£17
SpySnatcher	Topologika	£12
Square Route	Computer Eyes	£16
Squirrel 2	Digital Services	£127
– site licence		£545
Squirrel C Developer's Toolkit	Digital Services	£96
Starspell Plus	Fisher-Marriott	£19
StartWrite	Icon	£55
Stig of the Dump, age 9-13	Sherston	£23
StockPack	Topologika	£30
StoryBook, age 3-10	EMR	£59
Striker	GamesWare	£21
StrongED 3	Stallion	£22
Studio24Plus Version 2, age 11+	EMR	£149
Studio24Plus Version 3, age 12+	EMR	£210
Stunt Racer 2000	Fourth	£25
SUMthing	Resource	£24
SuperDump	Silicon	£20
Superior Golf	Superior	£14
SuperPlot	Silicon	£20
Swiv	Krisalis	£9
TABS	Aspex	£95
Talisman	Minerva	£9
Talking PenDown, KS1-3	Longman	£55
Talking Pictures	Wyddfa	£18
Talking Rhymes	Topologika	£37
Target Maths	Triple R	£15
Technodream (Nevryon 2)	Superior	£19
TechWriter	Icon	£159
Thinklink	Xavier	£29
ThinkSheet	Fisher-Marriott	£38
Thundermonk	Minerva	£9
Tiles	Brain Games	£19
Timeshare	Fisher-Marriott	£19
Timetabler	Minerva	£549
Time Detectives ... The Victorians, age 7-11	Sherston	£37
Time Traveller, KS2	ESM	£39
– Britain Since the 1930s, KS2		£33
– Create Your Own Timelines, KS2,3		£37
– Expansion, Trade and Industry, KS3		£39
– Making of the United Kingdom, KS3		£39
– Medieval Realms, KS3		£39
– Tudor and Stuart Times, KS2		£33
– The Victorians, KS2		£33
TinyDraw/TinyLogo	Topologika	£25
TinyPuzzle	Topologika	£20
Titler	Clares	£115
Toolkit Plus	Clares	£38
Tools Graphics, drawfiles	Micro Studio	£23
Topographer	Clares	£61
Touch Type	Iota	£38
Trace	David Pilling	£9
Tracer	Midnight	£46
Transfer2	Apricote	£16
Transport, drawfiles	Micro Studio	£25
Turbo Type	CIS	£POA
Turbo Type, Sound-FX Maker, E-Numix	CIS	£POA
Twain Canon IX incl Scan-Light Professional	David Pilling	£17
Twain Epson GT8000, 6500	David Pilling	£17
Twain HP Scanjet II, IIc, IIcx	David Pilling	£17
Tween	Oak	£28
TWO (Task and Window Organiser)	ICS	£10
– site licence		£30
TypeStudio	RISC	£38
Utility Disc 1	Data Store	£8
Utility Disc 2	Data Store	£13
Utility Disc 3	Data Store	£7
Utility Collection	Data Store	£21
Vector	4mation	£75
Victorians, age 7-11	Sherston	£POA
View»Mac 3	Human	£65
– Arc/Mac Cable	Human	£24
Viewpoints, age 7-11	Sherston	£37
Viking Invaders	Oak	£44
Virtual Golf	Fourth Dim	£25
Visual Backup	Dabhand	£39
Vox Box	Clares	£44
Waiter	Digital Services	£35
Waterloo (not OS 3.1)	Turcan	£19
Whale Facts	Topologika	£20
Wordbank	Topologika	£20
Words and Pictures	Chalksoft	£19
WordWorks	CC	£36
Wordz	Colton	**£77**
World Geography Maps, draw	Micro Studio	£23
WorldMaker, KS3,4	ESM	£51
World Map Study, KS3,4	ESM	£64
World Wildlife, sprites	Micro Studio	£16
WorraCAD	Oak	£65
Worst Witch, age 7-10	Sherston	£26
Xenon 2	GamesWare	£21
Yacht 2	Computer Tutorial	£49
Yacht 7	Computer Tutorial	£94
Zarch	Superior	£14
Zelanites (not OS 3)	Micro Power	£15
Zool	Gremlin	£19

HARDWARE

COMPUTERS . . .

Product	Publisher	Price
A3010 Action Pack	Acorn	£335
A3010 Learning Curve System	Acorn	£599
A3020 FD System	Acorn	£650
A3020 HD60 System	Acorn	£775
A4 2M FD System	Acorn	£1350
A4 4M HD60 System	Acorn	£1650
A4 Battery Pack	Acorn	£53
A4 Shoulder Bag	Acorn	£37
A5000 2M HD80 Multiscan System	Acorn	£1225
Pocket Book	Acorn	£169
– Class Pack		£1599

MEMORY . . .

Fitting extra unless otherwise stated
† Fitting fairly easy ‡ Fitting needs expertise

Product	Publisher	Price
A3000 1-2 Mb Upgradable †	IFEL	£62
A3000 1-4 Mb †	IFEL	£115
A3010 1-2 Mb		£45
A3020 / A4000 2-4 Mb †		£80
A310 2 Mb Upgradable soldered ‡	IFEL	£94
– as above + MEMC1a		£119
– as above + MEMC1a + fitting		£149
A310 4 Mb soldered + MEMC1a ‡	IFEL	£153
– as above + fitting		£189
A5000 2-4 Mb †	IFEL	£89
A5000 2-8 Mb including fitting	Atomwide	£500
A5000 4-8 Mb including fitting	Atomwide	£391
A540 4 Mb †	Acorn	£238

SCANNERS, DIGITISERS . . .

Product	Publisher	Price
Colour Converter	Lindis	£145
Eagle M2	Wild Vision	£289
FaxScan	Spacetech	£94
GreyHawk	Wild Vision	£98
Handipad	TechSoft	£193
Hawk V9 MkII Hardware Dithered	Wild Vision	£195
HiVision colour	HCCS	
– A3000 External		£157
– A3000/3010/3020/4000 internal		£144
– A5000/400300		£144
iMage (Sharp JX-100)	Irlam	
– for A5000		£490
– for other computers		£589
Image Scanner	Iota	£383
– Colour Upgrade Kit	Iota	£239
– Fast Parallel Card	Iota	£98
Pineapple Colour Video Digitiser	Pineapple	£195
– A3000 boxed	Pineapple	£230
ProImage (Epson GT6000)	Irlam	
– for A5000		£989
– for other computers		£1089
Scan-Light A4	CC	£277
Scan-Light 256	CC	£185
– A3000 External	CC	£190
– A3000 internal	CC	£190
Scan-Light Professional	CC	£565
– as above + SCSI interface	CC	£699
Scan-Light Video	CC	£208
– A3000 Series internal	CC	£208
Spectra	RISC	
– A3000 Series / A4000 Internal		£545
– A3000 External		£555
– Archimedes / A5000		£545
Vision colour	HCCS	
– A3000/3010/3020/4000 internal		£96
– A3000 external		£109
– A5000/400/300		£96

FROM OUR MARCH MAILBAG...

"Many thanks for an excellent service in what can be a very unhelpful market. Head and shoulders above the rest."

PRINTERS . . .

Product	Publisher	Price
A4-1200/1 Direct Drive Laser Printer	Calligraph	£989
Bubble Jet BJ-10sx	Canon	£187
Bubble Jet BJ-10sx + TurboDriver	Canon/CC	£219
Bubble Jet BJ-230	Canon	£315
Bubble Jet BJ-300	Canon	£325
Bubble Jet BJ-330	Canon	£380
Bubble Jet BJC-600	Canon	**£437**
Bubble Jet BJC-800 + TurboDriver	Canon/CC	£1374
DeskJet 500C	Hewlett-Packard	£279
DeskJet 510	Hewlett-Packard	£235
DeskJet 550C	Hewlett-Packard	£455
Laser Direct HiRes4	CC	£799
– 250-sheet Paper Cassette		£99
Laser Direct HiRes8	CC	£1050
Laser Direct HiRes Board	CC	£325
New toner cartridge for Canon LBP-4		£59
New toner cartridge for Canon LBP-8		£75

SUNDRY . . .

Product	Publisher	Price
486 PC Card 25 MHz 4 Mb	Aleph One	£525
486 PC Card 25 MHz Bare	Aleph One	£369
486 PC Card 50 MHz 4 Mb	Aleph One	£599
486 PC Card 50 MHz Bare	Aleph One	£440
4-slot 4-layer Backplane	IFEL	£52
5315 Monitor	Aydin	£425
A300/400 Fan kit	ICS	£15
A3000 Case for Expansion Card	HCCS	£16
A3000 Expansion Box	Wild Vision	£135
A3000 Serial Upgrade	Acorn	£21
A5000 Fitting Kit for second hard disc	ICS	£15
AnDi Oddule	Baildon	£39
Arckey Function KeyStrip Holder	ICS	vo £3
– pack of 4		vo £10
ArcNET	ACS	£69
ARM3 ‡	Aleph One/IFEL	£165
Arm_Stick	Arm_Tech	£28
ColourBurst	State	£374
ColourCard Gold	Wild Vision	£225
– A3000 External	Wild Vision	£225
Dongle Dangle with screw fittings	ICS	£6
Ergo-keyboard	Castle	£99
Ergo-keyboard for A3000	Castle	£128
Fan filters (pack of 10) (not A5000)	ICS	£6
Floating Point Accelerator (A5000 + A540)	Acorn	£93
Floppy Discs, 10 × 3½" High Density		£10
Four-Colour Refill Kit		£30
HiPoint Mouse for A4	Genius	£49
I²C Adaptor	Baildon	£10
I²C SWI (enhanced IIC_Control)	Baildon	£15
– bought with AnDi Oddule		£5
ideA Removable Hard Disc Fitting Kit for A5000	ICS	£25
Microlin fx Pocket Fax Modem	Pace	£179
Micro Mouse	Clares	£26
Midi Expansion Card	Acorn	£80
Monitor Stand for A3000	ICS	£21
Mono/SCSI	Atomwide	£48
Power Pad (Dual)	GamesWare	£34
Power Pad (Single)	GamesWare	£25
Power Switch	GamesWare	£17
Printer Port Sampler	Vertical Twist	£39
Printer/SCSI	Atomwide	£74
Publishing Pack	CC	£475
Revolution CD-ROM	Morley	£295
Revolution Pro (for SCSI system)	Morley	£435
RISC OS 3 Carrier Board for A310‡	IFEL	£21
RISC OS 3 Software Upgrade Kit	Acorn	£79
Seal 'n Type spill-proof Keyboard Covers		
– Archimedes / A5000	Kador	£14
– A3000	Kador	£14
TouchWindow	Lindis	£234
Ultimate CD ROM Dual Speed for A3010	HCCS	£279
Ultimate CD ROM Single Speed	HCCS	£219
Whisper Fan Quietener (for A300/A400 series only)	ICS	£15
Wizzo IDE Filing System on rom	ICS	
– Wizzo4 for A4		£POA
– Wizzo5 for A5000		£39
Wizzo SyQuest Complete Package		£335
– Extra 105 Mb Disc		£60

Do you use an A5000?
need to back-up data quickly?
need to carry data from one computer to another?
wish you could lock important data away easily?

Could you use 105 Mb floppy discs?

We've got some. They should really be called removable hard discs, but the difference is academic. Just install one of our SyQuest kits in your A5000 as though it were a second floppy disc drive. Now you can use 105 Mb removable discs as if they were fast floppies. Removable discs cost about the same per megabyte as traditional floppies. Our complete package includes a drive, a fitting kit and one 105 Mb disc, formatted and tested. No soldering is required.
Each ICS kit also contains a special version of Wizzo - our own IDE filing system on rom. Acorn's filing system does not support removable hard discs (you would need to reset the machine every time you removed a disc).

Wizzo supports the SyQuest option.

WIZZO (it's magic)

And gives you disc partitions, password protection, and the ability to access more than 512 Mb of storage.

WIZZO SYQUEST

COMPLETE PACKAGE	£335
ADDITIONAL 105 MB DISCS	£60 EACH
FITTING KIT ONLY	£25

Wizzo5 owners: please return your rom in its original packaging and deduct £10.

AUTHORISED ACORN DEALER

ICS

Dept U1, 1 Kington road, WIRRAL
Merseyside, England, L48 5ET

Tel: 051-625 1006 Fax: 051-625 1007

E&OE D61 940303

LICENSED CREDIT BROKER

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HOW TO ORDER

VAT: Zero-rated items are marked V0. UK customers please add 17.5% to all other prices. EC customers outside the UK (including BFPO) please do the same unless you are VAT registered, in which case quote your international VAT number. Ours is GB 595 7258 84.

CARRIAGE IS FREE WITHIN MAINLAND UK IF YOU PAY ON ORDERING.

Overseas carriage: If you are paying by credit card we will add airmail and insurance at cost. Otherwise please add £6 (Europe) or at least £12 (elsewhere) for each software item and send a pounds sterling bank draft payable at a London clearing bank, or Eurocheques for not more than £100 each.

Cheques should be made payable to Ian Copestake Limited.

Credit cards are welcome. We do not charge your account until your order is fulfilled. Your name and address must be as known to the credit card company. If you are leaving an order on our answering machine please include your telephone number, the expiry date of your card, and your calculation of the total payment due. We will make no charge for credit card commission unless we have informed you first.

Official orders are welcome from UK government and educational institutions. Payment is due in 14 days. Invoices are subject to carriage and late payment charges.

Site licences are available for most products. Please check our prices.

All products, prices and specifications are offered in good faith and are subject to change without notice. We process all orders immediately, but suppliers do sometimes keep us waiting. Goods are guaranteed but we do not supply them on approval. Returns and cancellations can only be accepted by prior agreement and there may be a charge to cover the costs involved.

ICS WIZZO (it's magic)

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The ideA range

ICS was the first company to offer IDE products for Acorns back in 1990; now they are the standard choice for new Acorn computers. Building on three years' experience we have continually improved our IDE filing system. It now offers the highest level of RISC OS compliance, and compatibility with at least 45 different hard discs tested by us. Can any other supplier make this claim?

Our IDEFS abolishes the RISC OS limit of 512 Mb, and offers extra features such as password protection, background operation, disc partitioning, and power saving (which allows some discs to stop spinning when idle).

Partitions can have different levels of protection. Family or pupils can access some of your files while you keep others safely out of their reach. Or you can simply protect the whole disc (reformatting is not required for this).

Our hard disc upgrade kits are based around two internal interfaces at present: IDEA3IN for the A3000 Series, and IDEARCIN for the A300/A400/A500 Series. All kits are designed to a high standard and include all the parts you will need.

IDEA3IN upgrade kits include an I^2C expansion socket as standard. They come with a 2½" disc already attached, and are easy to fit once you have opened up your computer. You may safely take no notice of rumours still being spread that internal upgrades might not be safe in an A3000. We have adhered carefully to the guidelines in Acorn's technical specifications, and in three years have never come across a problem.

IDEARCIN upgrade kits provide a fast 16-bit link all the way from the computer to the hard disc. They can even be fitted to an A310 without a backplane – quite a cost saving. A second hard disc can easily be added later if required.

Interfaces and hard discs can also be bought separately. By shopping around you may even save a few pounds. But beware: not all IDE hard discs work with all interfaces, and if you have a problem it may be difficult to decide who should put it right. We recommend buying a complete kit from one source.

WIZZO is the name given to our IDE filing system when it is supplied as a single rom chip. Wizzo5 is for the A5000, and Wizzo4 is for the A4. You should buy a Wizzo if you need password protection or wish to use larger hard discs. (Wizzo4 has been delayed slightly – we are adding a feature to ensure compatibility with possible future A4 upgrades).

A Wizzo rom by itself will only produce a slight speed improvement. If you need speed in an A5000, fit an IDEARCIN interface instead. Up to 60% improvement can then be achieved, but this does depend which hard disc you use so do check with us first.

How to read our ideA product references

A number at the end is the nominal hard disc capacity in megabytes. We usually round this down, so the actual formatted capacity may be higher. All discs have auto-parking. Average access times vary but all are below 20 ms.

All prices shown exclude VAT and are subject to change without notice. The cost to us for hard discs can vary enormously from week to week – not always downwards! Your local dealer can obtain *ideA* products from us or from a distributor.

Archimedes A300/A400/A500 Series Internal Upgrades

Package includes formatted hard disc, ideA interface card, hard disc cradle and fittings, fan kit, replacement multi-purpose LED (power and drive status), manual with fitting instructions. Can be fitted to an A310 without a backplane. If a backplane is used it must be a 4-layer type. Easily fitted by most users.

IDEARCIN 40*	£175	IDEARCIN 330	£399
IDEARCIN 80*	£205	IDEARCIN 420	£499
IDEARCIN 170	£275	IDEARCIN 540	£650
IDEARCIN 240	£325	IDEARCIN 1000	£925

A3000 Series Fully Internal Upgrades

Package includes formatted hard disc mounted on ideA interface card, manual with fitting instructions. Fully internal, using internal expansion slot. Co-exists with floppy drive and memory upgrades. Fits the new 1992 computers. Easily fitted subject to Acorn warranty stipulations.

IDEA3IN 40	£175
IDEA3IN 80	£250
IDEA3IN 120	£299
A3000 FAN KIT (not usually required*)	£19

**Only required if the computer has been fully upgraded, e.g. with maximum memory AND Econet AND an external podule.*

Separates for hard disc upgrades

We can only guarantee the performance of ideA interface cards with hard discs we have tested ourselves, so please check if in doubt. If you are buying a hard disc for an A5000 please say so. If you intend to fit the disc in addition to an existing one we need to know the make and model of the existing disc. Acorn's interface does not support all makes of disc, and some models will work as a second disc but not on their own.

Hard discs on their own are listed as, for example, IDEA 80. An S at the end indicates a 2½" disc.

IDEARCIN (Archimedes Interface for Internal disc(s))	£60
IDEA3IN (A3000 Interface for Internal disc)	£75
ARCHIMEDES INTERNAL CRADLE KIT	£15
ARCHIMEDES A300 / A400 SERIES FAN KIT	£15
4-SLOT 4-LAYER BACKPLANE	£52
POWER CABLE FOR SECOND HARD DISC	£5
A5000 SECOND HARD DISC FITTING KIT	£15

IDEA40*	£125	IDEA330	£349
IDEA80*	£155	IDEA420	£449
IDEA170	£225	IDEA540	£600
IDEA240	£275	IDEA1000	£875

IDEA40S	£115
IDEA80S	£190
IDEA120S	£239

WIZZO IDE Filing System on rom

Package includes rom, manual and fitting instructions. Compatible with RISC OS 3.0 and 3.1. Allows up to four logical partitions over two physical drives. Each partition appears separately on the icon bar and can have different password protection. Makes use of existing Acorn hardware for maximum compatibility, but works with a wider range of hard discs. Security breaches using ADFS can be prevented. Can be fitted easily by a competent user.

Available now: WIZZO5 for A5000	£39
Available soon: WIZZO4 for A4	POA

Quantity discounts available • Dealer enquiries welcome

** Lower-capacity 3½" discs are now very hard to obtain. Please check availability before ordering.*

ICS (Ian Copestake Limited), Dept B50, 1 Kington road, WIRRAL, Merseyside, England, L48 5ET

Pilling Processing

DAVID Pilling has unveiled his latest software package. *ImageMaster* is an image processing application with extensive standards conversions and support for the TWAIN scanner interface.

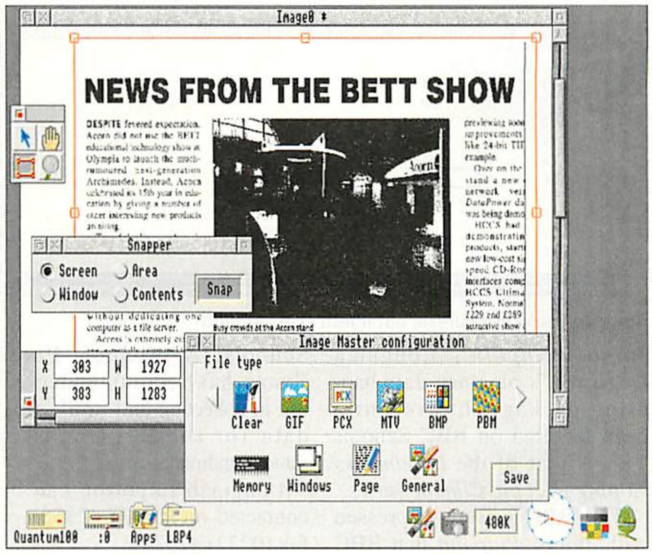
With *ImageMaster*, David is continuing his policy of very low pricing, offering *ImageMaster* plus a single TWAIN scanner driver for just £35 inc VAT for a limited period.

ImageMaster can work with source images larger than available memory, is compatible with images using up to 32-bits per pixel and can work with images which aren't supported by the native hardware.

For example, 24-bit images are loaded and displayed in a colour-dithered mode, but saved out as true 24-bit images.

Standards conversions mean many cross-platform image standards like GIF, TIFF and JPEG are supported as well as platform specific standards like BMP and PCX on the PC, PBM on Unix and of course Acorn sprite (including 16, 24 and 32-bits-per-pixel types) and Clear files.

TWAIN drivers are currently available for the HP ScanJet IIc, the Canon IX3010 (as supplied by Computer Concepts in ScanLight Professional) and the Epson GT. David Pilling has already developed a TWAIN-based scanner interface for a low-cost Integrex 24-bit colour scanner and the latest addition to the TWAIN driver range is one for the Canon IX4015, a 24-bit colour version of the IX3010.



ImageMaster in operation on a scan from Acorn User

Other *ImageMaster* features include image re-sampling, re-scaling, colour balance correction, linear and on-linear contrast adjustment, defined and user-defined filtering, colour resolution processing using Floyd Steinberg routines, image rotation, cropping, shearing, flipping, and more.

There is also support for RGB, HSV and CMYK colour models. Also included with *ImageMaster* are a desktop snapshot program, which will also grab screen images from non-desktop applications, and a tracing application to convert sprites to *Draw* files.

David Pilling, who works closely with Risc Developments, says he is hopeful that the *Sleuth* OCR package will soon feature a TWAIN interface, and other third party software houses have expressed an interest too.

ImageMaster is priced at £30 inc VAT and carriage and TWAIN drivers are available separately for £20 each.

If *ImageMaster* wasn't enough, David Pilling has also released *ArcFax* version 1.10, the latest version of his fax modem package. It goes without saying that David has bolted his implementation of the TWAIN scanner driver system onto *ArcFax* , so you can now fax directly from your scanner.

Two dimensional data compression is now used to speed up fax transmissions as well as reduce hard disc storage requirements. Class 8 voice/fax modem support is included for the first time, so users of the latest fax modems with voice features can use them as telephone answering machines or even record conversations to hard disc.

There's also a Z modem-based file transfer mode, but unfortunately, there is no Computer Concepts FaxPack compatibility mode for file transfers. Many other more minor changes have been made too.

The price is £35 and existing *ArcFax* users can upgrade for free if they also buy a modem, otherwise the upgrade price is £12 plus your original disc.

For more information contact David Pilling at P O Box 22, Thornton Cleveleys, Blackpool, FY5 1LR or e-mail at david@pilling.demon.co.uk.

A4 keyboard cure

CASTLE Technology has produced two replacement keyboards for Archimedes users in general, but of particular interest to A4 portable users. Both Castle's new Ergo and Silent keyboard models are guaranteed to cure a problem which A4 users encounter when using a conventional Acorn external keyboard.

Apparently (and we have found this at *Acorn User*) the A4's mouse channel can be overloaded because an Acorn keyboard sends mouse data faster than the A4 can cope with it. This causes the A4 to re-synchronise with the keyboard and if a mouse button is held down at that moment it is effectively 'dropped'.

Castle's keyboards maintain mouse button data transmission even during a re-synchronisation event, so windows aren't dropped. The Ergo keyboard costs £99 + VAT and has a tactile key-click action, while the £95 Silent version has a linear low noise action.

We'll be reviewing the Ergo keyboard in a future issue. For more information contact Castle Technology on (0728) 621222 or fax (0728) 621179.

STOP PRESS

Just as *Acorn User* was going to press, we received this communiqué from Acorn:

'Acorn has a long and impressive history of high technology and achievement. We are pleased to announce that our latest project is now reaching completion. The results of this project will have far reaching and significant consequences to all users of Acorn equipment well into the future.

'The first opportunity that the public will have to view the results of this project will be at the Harrogate show on 22 April. However Acorn, for the first time in history, is inviting a select number of Acorn enthusiasts to attend an exclusive preview and presentation of the project results at Grid Reference TQ281811 on Saturday 16 April.

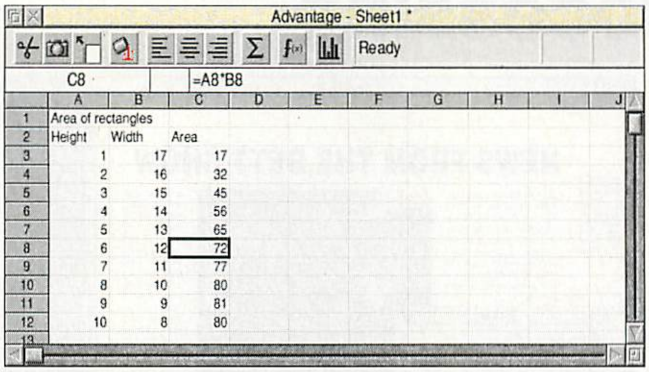
Entrance is strictly by ticket only; a limited number of tickets will be made available and can be obtained by calling the Acorn project hotline number 081-673 5455 during normal office hours on a first come first served basis.'

Longman Logotron's advantage

HAVING established *Eureka* as a top-flight Archimedes general spreadsheet package, Longman Logotron has now produced a spreadsheet called *Advantage*, which is a cut-down and modified version of *Eureka* specifically aimed at the education market.

At £49, *Advantage* is significantly less expensive than *Eureka* and is adapted to enable children to learn the basics of modern spreadsheet construction and analysis, using tools like point-and-click formula creation and graph charting.

Advantage can load and save *Eureka* files too. An *Advantage* site license is £120 for primary schools and £190 for secondary schools.



Advance: looks like Eureka, but doesn't cost as much

Junior Pinpoint, Longman Logotron's primary data handling package, has recently been featured on BBC Schools TV, as part of the *Landmarks Coping with the Climate* series.

The BBC was so impressed with *Junior Pinpoint* that BBC Schools TV producer Peter Evans has recommended its use in collecting and analysing data for subjects covered in future Landmarks series.

Longman Logotron can be contacted on (0223) 425558 or fax (0223) 425349.

On-screen with new 17in monitor

IT had to happen: just a month after completing our round up of monitors, Panasonic has brought out a very attractive new 17in model with a FST screen, power-saving circuitry, microprocessor-controlled picture settings and an on-screen status display, all for an RRP of £799 + VAT.

The PanaSync 5G TX-D1732 also has a 0.28mm dot-pitch screen which can display up to 1280x1024 pixels in non-interlaced mode. Priced identically to the similarly-specified Taxan ErgoVision 865Plus LR we tested last month, the PanaSync 5G could have the edge with its on-screen display.

The Taxan Ergovision is widely advertised for around £620 + VAT, so it will be interesting to see how the PanaSync 5G competes on the bottom line.

Eizo has also added a new 17in energy-saving monitor with an on-screen display to its line up in the form of the FlexScan F552, which is £950 + VAT, so the medium-price 17in monitor market is clearly hotting up. Panasonic can be contacted on (0344) 853915.

Photo touching

PHOTO-TOUCH, an image processing tool with advanced 24-bit colour facilities, is soon to be released by Oregan. With photo retouching tools such as airbrush, spray can and effects like ripple, emboss and swirl, it certainly promises much.

All the imagery is stored in 16.7 million colours in memory and represented in 256 colours on screen using advanced continuous dithering techniques. TIFF and Clear files can be imported, making this program another contender for the Acorn *PhotoShop* alternative. Expected launch price is £79.95. Oregan is on 021-353 6044.

Cheap laser

PROBABLY the lowest-cost laser printer yet has been launched by Mannesmann Tally. The £395 T-WIN printer has a 4 page-per-minute throughput and is specially designed to eliminate ozone emissions.

The T-WIN printer is cheap because it is designed to work with a new PC gizmo called a Graphics Device Interface, something Computer Concepts and Calligraph, with their direct drive solutions, will smile at wryly; after all they've been doing this for years. But will the T-WIN attract support in the Acorn market? Over to you CC and Calligraph. Mannesmann is on (0734) 788711.

CD cacher

CD-FAST, an intelligent caching system for CD-Rom users, has been produced by Eesox.

CD-Rom action times have been reduced by as much as 50% according to Eesox tests. Eesox says practically any Acorn compatible CD-Rom drive can benefit from *CDFast*.

Some drives, like the Acorn MEU, managed to run some operations – which normally took 1098 seconds – over six minutes quicker; that's a 35% reduction in time. Only between 8K and 36K of memory is used for the *CDFast* cache.

At £25 + VAT *CDFast* isn't likely to break the bank. Eesox is on (0223) 264242.

AccessMaths

The Ormerod School-based ACE (Aids to Communication in Education) Centre in Headington near Oxford, has released *AccessMaths*, described as a powerful geometry and drawing program too enable both mainstream and special needs students explore a variety of mathematical concepts found within Key Stages 2 to 4.

The Archimedes version is currently under preparation. For more information, contact The Ace Centre on (0865) 635508.

Acorn to back CD

The Department of Education is currently promoting the use of CD-Rom technology in schools with financial incentives. Acorn has reacted by announcing a complementary CD-Rom offer during March and April.

The offer is open to all primary, secondary and independent schools and local authorities in the UK and includes reduced prices on Acorn CD-Rom multimedia solutions. An Acorn promise of further developing the CD-Rom market probably points towards the imminent arrival of native Risc OS Kodak Photo CD support. For more details of Acorn's CD-Rom special offers contact Acorn on (0223) 254254.

ProArtisan results

Thanks to everyone who entered our spot-the-difference *ProArtisan* competition in January's issue, and congratulations to the following, who each win a copy of *ProArtisan* from Clares:

M Osborne from Winchester, Hants

A Norman from Ipswich, Suffolk

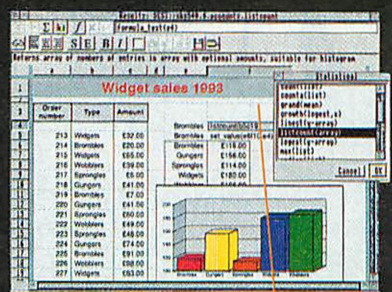
A P Rose from Crowborough, East Sussex

Thanks to everyone who entered the competition.

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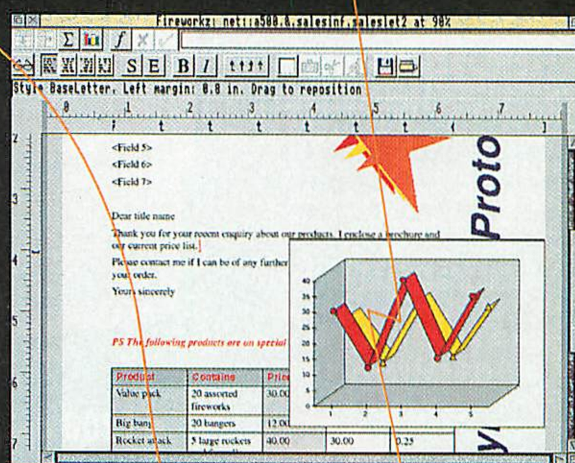
resultz



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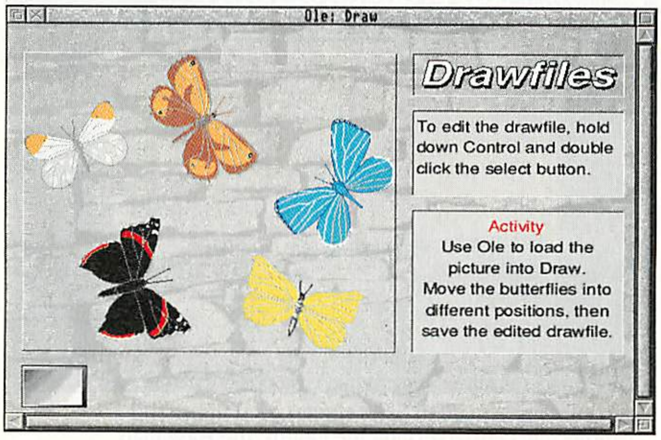
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New Genesis from Oak



Genesis now supports Object Linking and Embedding (OLE)

GENESIS PROJECT and *Genesis Professional* are two new versions of the popular *Genesis* multimedia authoring system for the Archimedes from Oak Solutions. They supersede *Genesis Plus* and *Genesis 2.0.*

Changes include a revised control interface with different menus and dialogue boxes for ease of use.

'With *Genesis Project* and *Professional*, ease of use is paramount,' explained Tony Holdstock of Oak Solutions.

'The user is presented with a simple menu structure and a series of user-friendly dialogue boxes so all aspects of the style of an object can be set in one simple operation,' he added.

Enticingly, Oak has revealed that the new *Genesis* versions have been developed with 24-bit colour display technology in mind and 'the newly announced VIDC chip.'

Also new are the abilities to add control buttons automatically to frames, and *Artworks* file-rendering levels can be limited. Speed gains of up to ten times have been realised through the use of a 'turbo' loader, especially useful for networks and CD-Rom use.

Genesis Project and *Professional* are now also available for the Mac and Windows platforms and in addition there is a cross-platform *Genesis Software Developers Toolkit* (SDK).

Upgrade prices are as follows: *Genesis/Genesis Plus* to *Project*: £35; to *Professional*: £90; and to the SDK: £770. *Genesis 2* to *Genesis Professional* costs £60 and upgrading to the full SDK is £740.

Stand-alone prices are: *Genesis Project*, £50 and *Genesis Professional*, £120. *Genesis for Windows* is priced £70, *Genesis* for the Mac £70.

Oak Solutions is on (0532) 326992.

Teletext card debut

TELEVIEW HARDWARE, a teletext decoder, is the first product to be launched by Design IT, a new firm set up by former head of the Dudley Education Computer Centre and sales & marketing manager for SJ Research, Rob Cowell.

TeleView Hardware is the first native teletext expansion card to be produced for the Archimedes and is supplied with Risc OS-compliant *TeleC_Fax* control software for selecting channels, holding and revealing pages, and so on.

A script facility enables teletext pages to be automatically downloaded and you can also keep your Arc's time set correctly by teletext time. *TeleC_Fax* is also compatible with foreign language teletext including German, French and Swedish.

Two versions of the TeleView card are available. The first is priced at £145 and is restricted to teletext functions, while the alternative is £14 extra, for which you get to see and hear what's on TV as well, providing you have a composite video display monitor and suitable sound output from a walkman jack.

Cards for the A300/A400/A540, A5000 and the A3000 are now available and a version for the A3010, A3020 and A4000 machines is in the pipeline. A teletext server application for AUN and Access networks is due to be released soon and there is also support for the Morley Electronics external teletext adaptor.

Design IT can be contacted by phone or fax on (0902) 894775.

Field order change

AS from 1 May 1994, the following Field Orders will no longer be carried out for free by Acorn, so if you are experiencing any of the following difficulties on old A300 or original A440 machines, get down to your Acorn dealer before the deadline, or you could be charged: excessive background noise from speaker; RGB sync levels to low; reduce video noise; Winchester circuitry improvements; spurious parallel line feed problem; serial port.

Simtec

SIMTEC has just launched probably the lowest profile A310 4Mb Ram upgrade available. It uses surface mount technology and the design makes it easy to fit. For more details, contact Simtec on (0772) 812863.

New from Spacetech

Spacetech has announced a new art and photo retouching package, called *Photodesk*. All operations are performed in 24-bit colour, future-proofing the software.

The approach to allow each painting tool to apply every effect gives a large number of potential operations, but without creating a difficult user interface. The price is yet to be announced.

For educational customers only, Spacetech has produced a CD-Rom containing a library of raw spacecraft data images from the French SPOT land-mapping satellite.

The CD-Rom is priced at £139.50 + VAT. Spacetech is on (0305) 822753 or fax (0305) 860483.

New AU Staff

Acorn User has a new staff member, starting with next month's issue. David Matthewman is our new Deputy Editor, and will be based in the Europress offices in Macclesfield.

Parlez-vous 10/10?

10/10 French has been produced by Expert Language Tutors for national curriculum students. Provisions are built in for tracking a user's progress too.

Pete Davidson, 10/10's project development manager, commented: 'We believe that this package is going to improve everybody's French because we make learning fun.' 10/10 can be contacted on (0742) 780370.

Equate from PTW Software

If you're looking for the last word in mathematical plotting on the Archimedes, PTW Software thinks it has it and it's called *Equate*. For just £15 you get an application which can plot up to 32 equations on one graph, and can handle all sorts of graph.

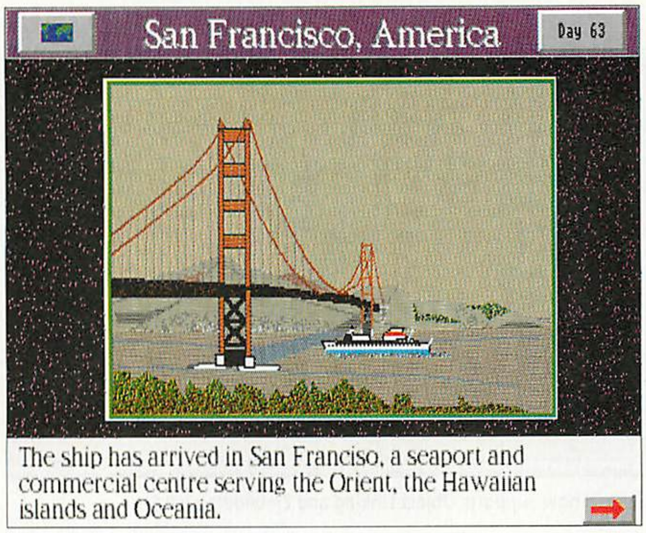
For more information contact PTW software on (0329) 281930.

Around the world in 80 days

PHILEAS Fogg's descendants Francis and Freddy climb aboard the Archimedes for an up-to-the-minute 80-day voyage around the world in this latest upper primary school multimedia release from Sherston Software.

Included in the package, which is priced at £39.95 for a single-user licence, are activities which introduce users to geographical skills like grid referencing, longitudes and time zones, contours and directional bearings.

During your voyage you need to keep your wits about you as the wicked Wiley Windbag is constantly trying to spoil things for Freddy and Francis. Support materials included are extensive, according to Sherston, and there is a separate resources disc containing screens relevant to stages of the voyage, from the Eiffel Tower to the Manhattan sky line.



San Francisco: no flowers in your hair in Phileas Fogg's day

Also from Sherston this month are the new mathematical adventure games *Space City* and *Sea Rescue*, priced £26.95 + VAT each. *Space City* helps pupils learn about angles while *Sea Rescue* deals with fractions. Finally, Sherston Software is holding a Crystal Maze competition at the forthcoming *Acorn User* show in Harrogate, complete with some of the Channel 4 TV show gamers. Sherston Software can be contacted on (0666) 840433 or fax (0666) 840048.

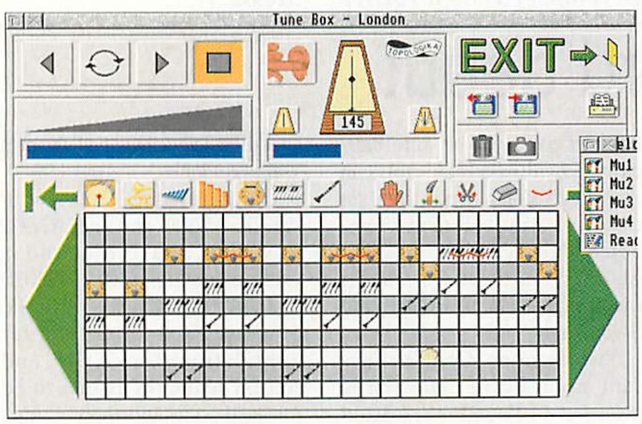
New Topologika releases

THREE new educational titles will be launched at the Spring Show: *Talking Rhymes*, *Number Tiles* and *Music Box*.

Talking Rhymes is a jigsaw puzzle program which plays nursery rhymes. Four rhymes will be available at the show, with another four being introduced later in the year. Each rhyme is priced £12 + VAT, though all four can be bought together for £40 + VAT.

Number Tiles is a practice program for Key Stage 1 and early Key Stage 2 children to hone their addition, subtraction, division and multiplication skills. *Number Tiles* is priced £30 + VAT.

Previewed in January at BETT '94, *Music Box* is a pre-notation music application for lower primary children and those with special needs. A library of sounds is catered for, including a simple drum machine. *Music Box* is priced £35 + VAT. *Music Box's* designer, Marshal Anderson, will be putting his creation through its paces in the *Acorn User* Show theatre.



Music Box will be appearing in the Show theatre at Harrogate

Topologika is on tel/fax (0733) 244682.

Cumana Chemistry Set on CD-Rom

CUMANA'S new *Chemistry Set* CD-Rom is aimed at ten-year olds and upward. The CD-Rom focuses on Key Stages 3 and 4 of the New Attainment Target 3 (NAT 3) as well as bio-molecular aspects of Key Stages 3 and 4 of the NAT 2. According to Cumana, first year university students will also find the CD-Rom useful.

Over 350 video sequences are used to illustrate experiments using laboratory procedures. The CD-Rom also acts like a textbook with a database of compounds, elements, animated 3D molecular structures, and industrial applications.

Cumana are on (0483) 503121 or fax (0483) 451371.

Sibelius nominated

ibelius 7 music processing and publishing application for the Archimedes has been nominated for an award by Computer Shopper magazine in the category of best software of the year for any platform. We wish Sibelius luck! See the cover disc for a demo of *Sibelius 7*.

CCS

CCS is a new company which specialises in Curriculum-related software, and four new products have been released.

The *Langdale* CD-Rom (£149) is a multimedia learning resource based on the Great Langdale valley in the Lake District, aimed at Key Stage 3 Geography.

Maths Card (£49) helps teachers produce maths worksheets easily and quickly, and *Report Writer* (£49) performs a similar task with report writing – see page 75 for a review of *Report Writer*.

Finally *Conjugez* (£24.95) is a revision and teaching tool for French verbs. Site licences are available on request. CCS is on (0422) 340524. CCs have also just booked a stand at the Acorn User Spring Show

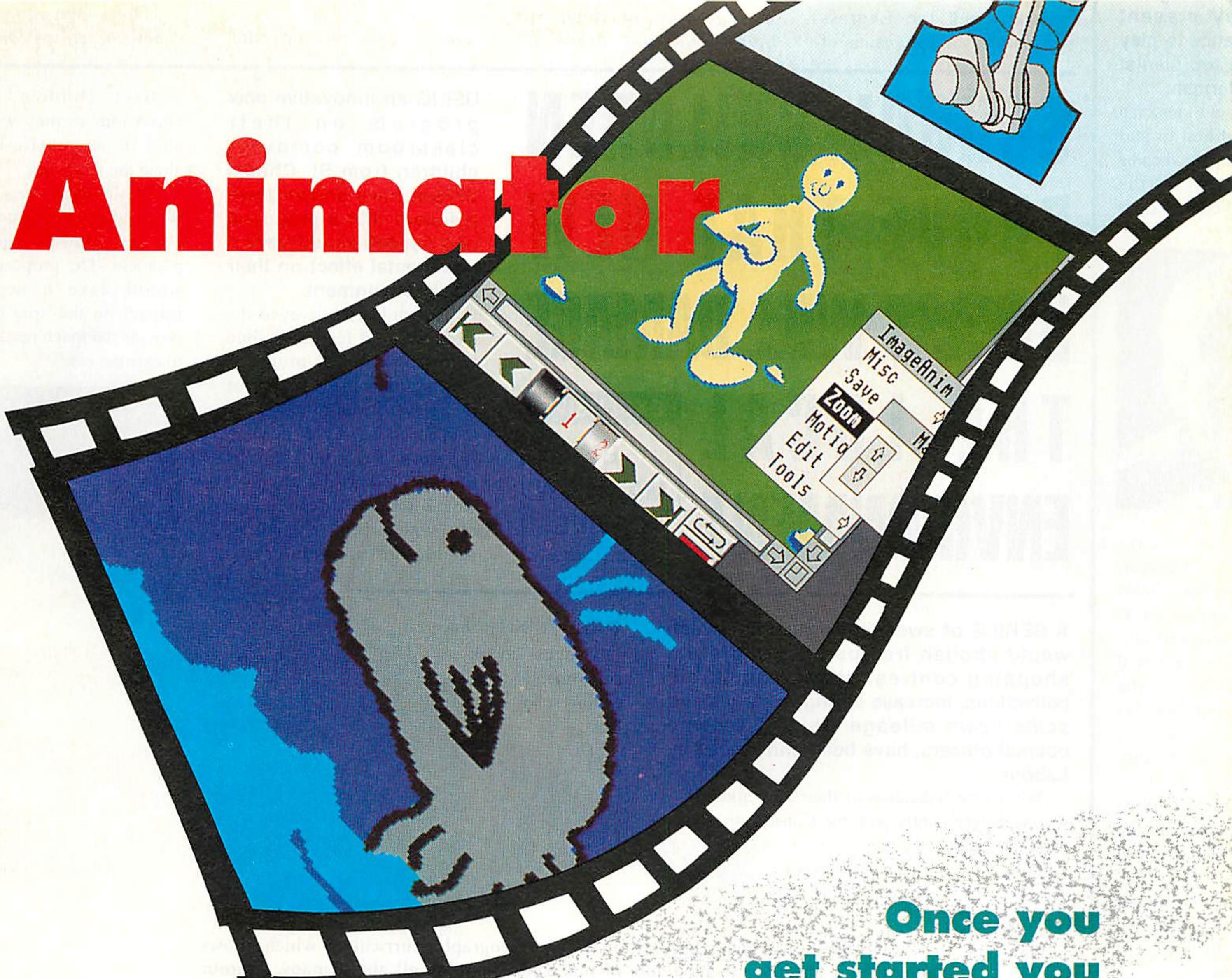
Irlam on Show

Irlam's latest version of *ImageBank* will be released at the show and will support *Draw* files, faster JPEG decompression, dithered 16-bit output, and there will be a demo mode for slide-show carousels. The price remains £25 + VAT.

Irlam's colour hand scanner, (see page 57) will have updated software to support dynamic image saving to disc, plus support for 16- and 32-bit sprites. Pricing is £359 + VAT.

Finally, Irlam hopes to show an image stitching utility for use with hand scanners. Irlam Instruments is on tel/fax (0895) 811401.

Animator



Once you get started you won't want to stop!

Image 'Animator' is very easy to use, and is a fun way to make your pictures come alive. Within a few minutes you can be producing your own animated films, either using 'Animators' own built-in set of paint tools or using your own sprites (paint files).

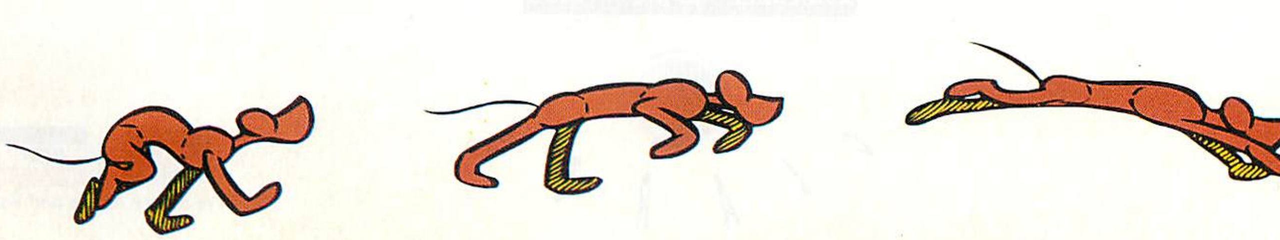
It is an ideal way to produce animations for use with multimedia applications such as DataPower, Genesis, Key Author and so on. It can even be used to add titling and animated graphic on your home videos (using a suitable Genlock board).

'Animator' comes with 11 example files and a public domain projector you can use to send your films to your friends! It is a fully multi-tasking application that works in any mode, and will work on any RISC OS computer with 1Mb or more.

For Further Information or to Order:
Call (0223) 566789 or Fax (0223) 566788
or Write to:
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Last week the Express reported on the complaints of

management of Edgeley branch was not aware of

manager on December 10 to make the views of the

"The cage in which aluminium cans are stored was

SCHOOL CHILDREN PROVE THAT NEW BYPASS WILL DAMAGE THE LOCAL ENVIRONMENT

EXCLUSIVE

BY MATTHEW DAVIES

USING an innovative new program on their classroom computer children from St. Chad's School have shown town planners that a proposed new bypass would have a detrimental effect on their local environment.

The children surveyed the local area and fed details into their Topographer program, which allows them to look at the relevant area in 3D. They then added the new road along its proposed route and it became obvious that the road would not only affect an area renowned for its badger population but would also distract children in the classroom as they would be able to see traffic moving along the new road.

The children even went as far as to propose a new route for the road to the town planners. The proposed route would have a negligible impact on the area but still provide the much needed relief to existing roads.



A SERIES of sweeping proposals which would abolish free parking in district shopping centres, change some bin collections, increase lettings charges and scale down mileage claims by some council officers, have been announced by Labour.

In the first indication of their intentions sir seizing power jointly with the Conservati party has produced a h 1,000 ' servi

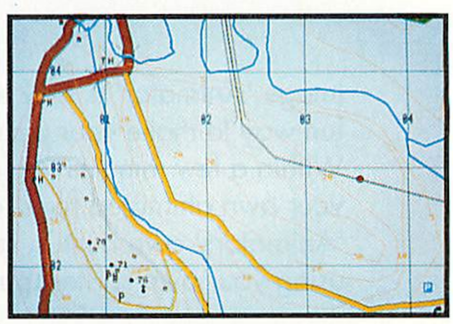
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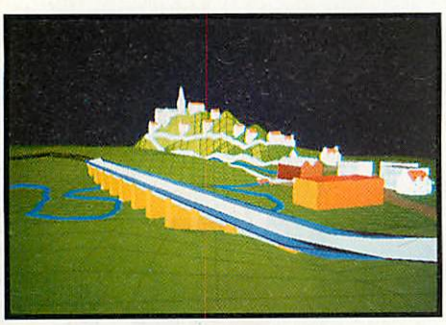
Th

Topographer is a major application for the Geography curriculum which allows children (and teachers) to have lots of fun whilst learning all about maps, contour lines, valleys, rivers etc. In fact *Topographer* covers virtually all items found on a map.

The real break through with *Topographer* is its 3D section which allows you to convert a 2D map into a 3D model on screen. Imagine turning a set of flat contour lines on a 2D map into a 3D model which clearly shows the hill — no more cardboard cut out models or papier mache! You define where you look from, and what you look at.



Topographer also covers aspects of the IT and maths curriculum with its modelling capabilities. Just stop for a minute and think of the projects that you could do with *Topographer*. You could make a map of the local area with churches, pubs, woods etc. and then view it from various places. If there is a bypass proposed you could add it in to the existing landscape and see where it is visible from and what impact it is likely to have on the community. I'm sure you can think of a hundred and one topics.



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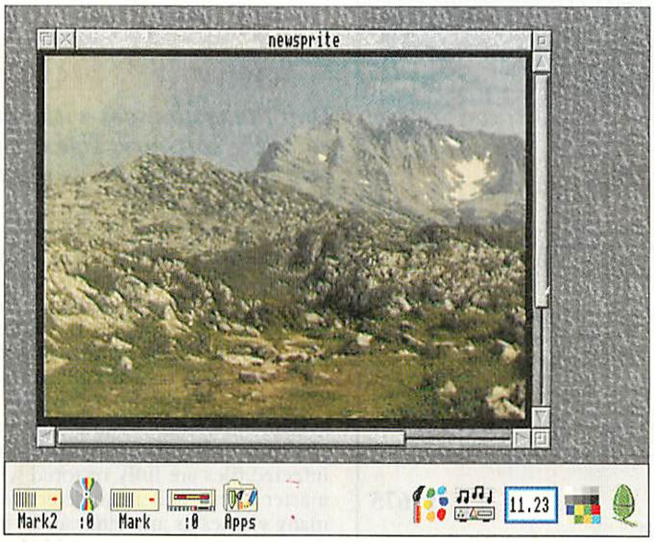
24-bit colour explained

THERE has been much speculation and confusion over the past few months concerning 24-bit colour and Acorn computers. With the Acorn scene nearly frantic in anticipation of what new hardware Acorn is about to unleash, I thought it appropriate to explain, in non-techie terms, the capabilities of the chip which will generate graphics in the next generation of Archimedes.

As has been reported ad nauseam, the video chip that will be used is the VIDC20. VIDC20 is a 24-bit chip as opposed to the currently-used VIDC10 which is 8-bit only.

An 8-bit video chip can vary the intensity of each of the three primary colours sent to the monitor, within a scale of 0 to 7 (from no colour to 100% saturation). A 24-bit chip can vary these values within a scale of 0 to 255.

With each primary having 256 possible values, 16.7 million colours can be mixed. But the new Acorn format 24-bit Deep Sprites will actually contain not 24-bits of colour data but 32. The extra eight bits of colour depth are intended to be used by the computer in order to achieve a number of visual effects. They could be used, for example, as transparency values at the anti-aliased edges of lines when overlaying text onto a 24-bit image.



24-bit desktops are just around the corner

This added flexibility will be welcomed by the multimedia market, which will undoubtedly utilise such effects as these. But VIDC20 is not just more colourful than its predecessor, it is also much faster. To date video chip performance has been limited to 35 million pixels per second (35MHz) in standard Acorns.

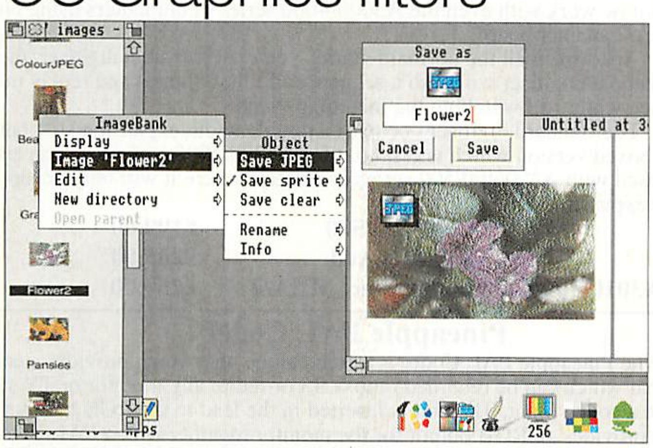
Graphics accelerator cards raise that figure considerably, improving refresh rates and upping the resolutions at standard refresh speeds. VIDC20 is specified as being capable of sustaining a 135Mhz pixel rate, though depending on the I/O capabilities of any new VIDC20 equipped machines, this figure may not represent the performance of the chip in practice.

However fast Acorn plan to clock the VIDC20 within their tolerances of reliability, such screen modes as seen at the last Acorn World and BETT shows will be supported.

From the figures displayed on the promotional demos, we are looking on the lines of 2Mb screen modes like mode 31 (800x600) in 16.7 million colours, to 1600x1200 in 256 colours.

It is important to remember that underneath all the quoted figures lie two important factors limiting the massive performance of VIDC20. The first is that the average human eye cannot distinguish more than two million colours and secondly, you're going to need one seriously good (for 'good' read 'expensive') monitor to see all those dots in any case.

CC Graphics filters

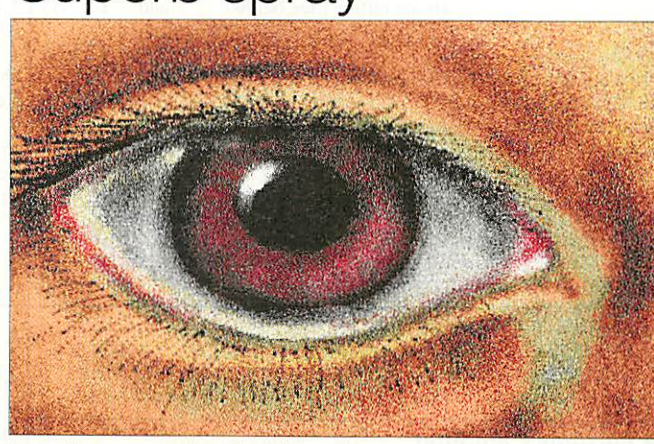


Computer Concepts' JPeg in action with Impression

JUST before going to press, Computer Concepts sent *Acorn User* a pre-release of their forthcoming Graphics Filter Pack. The code as it stands now seems very well-finished, with no problems encountered on loading TIFF, JPEG and Clear files into Computer Concepts' graphics and DTP packages.

The only time you see the application is when running the installer and other than that, the filter appears totally invisible. On drag-dropping image files, of the types listed above, into CC applications a window appears, prompting selection of colour depth and dithering type. Then with astonishing speed the image appears within your document. There will be more details as they become available or contact Computer Concepts on

Superb spray


Fantastic spray cans from David Llewellyn-Jones

DAVID Llewellyn-Jones from Wales has sent in a superb demo of his spray can application, dedicated to generating imagery for his A-Level Art course.

Of enormous aesthetic and educational value, the replay feature of the program is able to remember all the cursor movements used to make the final composition. You can see your pictures evolve before your eyes, from blank screen to finished masterpiece. Look out for more details and perhaps a cover disc demo in the future.

Contact the Graphics Page by writing to Jack Kreindler, at The Graphics Page, *Acorn User*, Europress Enterprise, Europa House, Adlington Park, Macclesfield SK10 4NP.



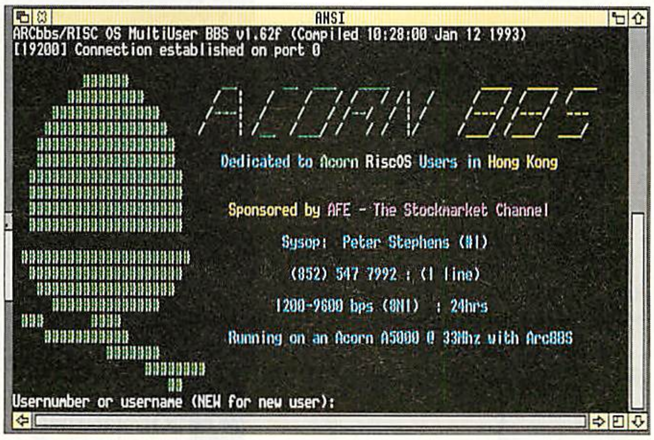
Acorn Foo Yong

WHERE in the world is the cityscape majestic and the food exotic, the people friendly and multicultural, the local phone calls free and technology products cheap? Hong Kong is the answer, and is the location of Acorn BBS, run by Sysop Peter Stephens.

Acorn BBS is a privately run system, sponsored by the local Hong Kong Acorn dealership AFE (The Stockmarket Channel), with the aim to support Acorn users in Hong Kong with advice, Acorn news and upgrades, PD software, and provide a forum for discussion on all aspects of Acorn computers.

Acorn computers are used especially in support of the Hong Kong stock exchange and also in local schools, and there is a growing group of private users. Local telephone calls are free in Hong Kong and as a result, there is a large number of mostly PC-based BBSs.

Peter is shortly to upgrade the Acorn BBS system, at present running *ARCbbs* on a 33Mhz A5000 with one line, to a fully-fledged *ARCbbs* FidoNet node and a USR Courier Dual-Standard modem. Already on-line with 24-hour access at speeds up to 9600bps, Acorn BBS is on (+852) 5477992. Hong Kong time is eight hours later than GMT, so off-peak calls from the UK may hit their busy time.



Comms, Hong Kong style.

Accessing Internet

SO many Acorn users are asking me how to get access to Internet, that a few brief words may help. The most Acorn-friendly service provider seems to be Demon Internet Services, who can get you online almost immediately, simply by speaking to them on 081-349 0063.

They'll ask you for a credit card number and a 'hostname' for your machine, up to eight letters, and explain what to do next. You'll need to mention that you will be using an Acorn machine. This will cost you £12.50 + VAT joining fee and £11.75 inc VAT per month, on your credit card.

Then you log on to Demon's BBS system and download some excellent PD TCP/IP packet software, generically called KA9Q (the ham radio callsign of the original author). There is a version of this ported for Acorn 32-bit machines in the form of an application called *TCPIP*.

This is a very complicated piece of software, but fortunately there is a very good explanation, written by Paul Allen, of how to set it up, which was published recently in The ARM Club magazine and can also be found as a text file download on some BBSs.

Using your terminal to launch *TCPIP*, you then call up one of Demon's 'Points of Presence' that gives you a gateway into the Internet, and you're off round the world in a flash, logging onto NASA missile sites, collecting newsgroup messages on hundreds of thousands of possible subjects, or downloading files from ftp servers as easily from other countries as from the UK. Demon has its own ftp file server, from which you can get the latest versions of *TCPIP* and other must-have utilities, such as a PD dialler program called *SlipDial*, and *ReadNews*, which allows you to read and reply to downloaded Usenet newsgroups.

Anthony Frost's *ReaderS* can also be used to read and reply to Demon e-mail and newsgroup messages.

So all you really need to get started is a terminal program to download *TCPIP*. Once you are able to ftp files using it, you'll wonder how you managed without a mail reader for newsgroups and e-mail and a dialler to launch *TCPIP*. Nowadays, an Internet address is almost an essential accessory for any comms enthusiast.

Paradise

AT last, Rich in Paradise BBS is back, based now in Hemel Hempstead, and still run by sometime broadcaster, gadget man and enthusiastic BBS Sysop, Richard Paddle.

After two years off line, the BBS now boasts a US Robotics V32terbo modem, 24-hour access and a new FidoNet node number: 2:257/120.0.

In its earlier incarnation, Rich in Paradise was the first ever A5000-run BBS, and still uses that machine running *ARCbbs* software, now with a Serial Port dual-serial card and a 500Mb SCSI hard drive.

Richard has given the BBS a unique graphic identity, a feature which requires a lot of design work that can go unnoticed in these cost – cutting times of script-controlled logon-grab-logoff calls.

RiP – to use its self-proclaimed nickname – has all the usual BBS features of Fidonet echomail and local messaging, user statistics, downloads with over 100Mb of compressed files, Acorn Support (whatever happened to Acorn Support?) and various unusual areas.

RiP is on-line 24 hours on (0442) 255199, at all speeds to V32terbo with V42bis/MNP5.

In brief

ARMada change

Daniel Aston's Plymouth-based ARMada BBS is now running *Archiboard* software and has a telephone number and access time change. The BBS is now online 24 hours on (0752) 482063. Speeds are 300-14,400bps, and ARMada is on FidoNet as 2:255/73.0.

New magazine

A new on-line magazine called ArcNews, dedicated to Archimedes comms & network users, be they casual callers, Sysops or net co-ordinators, is available on Keith Marlow's Archiboard Central BBS in Norwich on (0603) 744231.

E-mail addresses

Most commercial companies are now contactable by Internet e-mail, including many of interest to Acorn users, such as Acorn Computers Ltd: customer.services@acorn.co.uk, Computer Concepts: support@cconcepts.co.uk, Atomwide Ltd: sales@atomwide.co.uk and so on.

UK-based companies are usually suffixed '.co.uk' while the United States location of a company is implicit in the '.com' suffix, as in user@applelink.apple.com.

Incidentally, *Acorn User* is on mark@acornusr.demon.co.uk, but this line is only for editorial communication, not subscription queries.

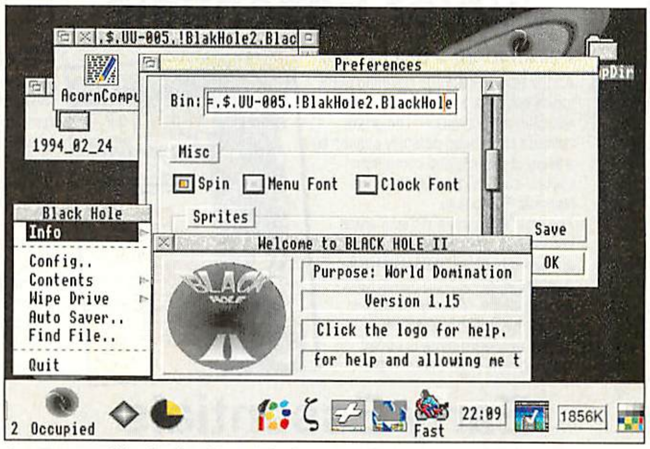
Fast fax

The Zoom 14.4X must be the best value approved, high-speed fax and data modem around at the moment, featuring V21-V32bis (including V23!), V42bis error correction, and Class 1 and 2 Fax at V17, 14,400bps.

The price , for the extenal cased version is currently £199 + VAT from Express Technology Ltd, from who can be contacted on (0784) 421123 .

You can contact the comms page by writing to: David Dade, Acorn User, Europress Enterprise Ltd, Europa House, Adlington Park, Macclesfield, SK10 4NP or by e-mail to: DaviD@arcade.demon.co.uk, or by modem on Arcade BBS, User #2, 081-654 2212 or 081-655 4412.

Desktop trash cans



Dump your files in the bin with BlackHole 2

ANYONE familiar with using Apple Mac or Sun computers will notice the absence of any desktop file trash cans on Risc OS, but help is at hand from two PD utilities: the new *TrashFS* and the recently updated *BlackHole 2*.

The idea of a trash can is to provide a separate file store for deleted files which can be retained in case they are needed. Both programs are available freely as PD but which is the best choice?

TrashFS is more or less a glorified 'waste' directory. Files dragged to the iconbar icon will be copied to the 'waste' directory and removed from their original location. Options are sparse, but flashing the border red before emptying the 'trash' is useful.

In contrast to *TrashFS*, *BlackHole 2* is brimming with extra utilities and features. Files are deleted in the usual way, by dragging them to the iconbar icon, but are stored by *BlackHole* in a tree of directories representing the date of deletion.

Options to retain the files for only a set time and to compact items in the bin using squash are the main areas in which *BlackHole* excels over *TrashFS*, and added extras like the detailed file finder are a welcome bonus.

If you're looking for a basic desktop bin, and can cope without all the extended and possibly time-consuming features found in *BlackHole 2*, then *TrashFS* is probably the program for you. But for a more comprehensive utility *BlackHole 2* is my choice.

TrashFS can be located on Datastream disc UU-008 and *Blackhole 2* on UU-005.

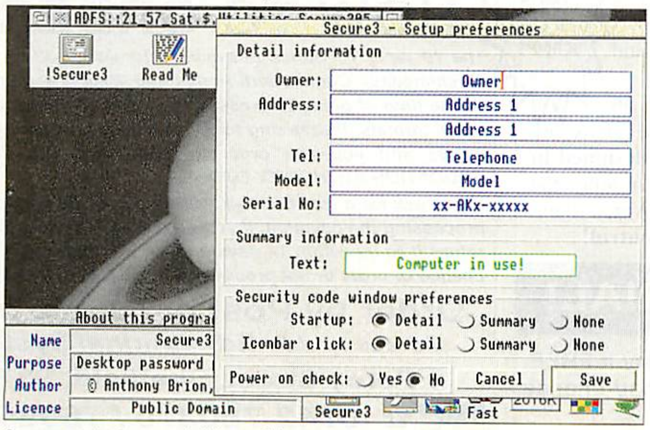
Secure V3.05

AFTER hearing about the case of a portable PC thief, who was caught after some protection software revealed to a prospective buyer that the computer was stolen, Anthony Brion decided to write some similar code to protect his A4. The freeware utility, *Secure*, is the result of Anthony's work and is well worth a look.

The program is designed to run automatically on boot-up and presents the user with a protection screen, giving the owner's details and asking for a password to be entered. A message makes it clear that if a vendor selling the computer doesn't have the password, the machine must be stolen.

The main drawback is that it is possible to get round the program, though it's unlikely that the average thief knows how to fool the system.

Another problem is the application is a bit memory-hungry, but despite these niggles, if you feel your A4 is at risk, *Secure* from the Datafiles Catalogue 18 disc could be what you need.



Secure protects your A4 from thieves

Enhancers

SEVERAL mini desktop enhancers have been released this month, including a handy module from Martyn Fox. When added to your boot sequence, *IClear* allows quick editing of writable icons.

When a Risc OS save box is generated, it usually contains the default name for the file, but by simply double clicking on the text, *IClear* wipes the text when the new name is typed in. It sounds simple, but it's a useful productivity tool. *IClear* is on disc UT-008.

Direction is yet another PD program from Doggysoft, which warrants inclusion in your startup sequence. This mini utility module replaces the standard command line prompt with the current selected directory (CSD) path, in the style of DOS on the PC.

Also, check out *RMA manager*, which rapidly squeezes your module area, and could be a real boon for 1Mb users, or anyone short on memory. *Direction* and *RMAmanager* are on the Datafile's catalogue 18 disc.

In brief

Scene

Fresh from the computers of techno coders Psycore comes a new dance demo entitled *AUX: Alien Ultrasonic Xperience*. Despite using only a few main routines, the fx are impressive and suit the style of the demo, and in my opinion rival the Jelly demos.

Precalculated sprite-scaling animations are layered onto the screen, to create zooming shapes on top of animated techno design backgrounds. The music which is simply linked to the screen fx is okay, but could be better. AUX is on the Datafile's Demo 125 disc.

Three mini graphics demos from George Saliaris (Excelsior) also reach the scene this month, and apart from the boring plasma in *WavePlasm* they are definitely worth a look.

The imaginatively entitled *Rings* uses the old trick of overlapping circles, to produce a pretty impressive full – screen effect at a good speed. Despite including a laughable rendition of Tubular Bells, *ImgFields* is a great demonstration of sprite scaling. This is a pre-release demo of part of the joint European megademo, *Extreme*, which should be out in Autumn '94. All demos are available from the Datastream.

After revealing the expertise of French coder Frederic Elesei (Armoric of Arm's Tech) with the inclusion of a little Gourard shading demo on last month's cover disc, I can report that Frederic's latest code looks even more impressive.

Laser-scanned images have been combined with the existing light – sourced shading routines, putting me on the edge of my seat for the release of the fully completed code.

PD makes a stand

Until now there have not been any stands at the Acorn shows totally devoted to a PD library. Dave and Sue McCartney, proprietors of the biggest PD library around, The Datafile, plan to change this at the forthcoming *Acorn User* Show in Harrogate.

Also of interest at the North's Acorn gathering will be the club corner, which includes stands from the Arm Club and Illusions. For more details see page 31.

You can contact the PD page by writing to: Paul Wheatley, Acorn User, Europress Enterprise Ltd, Europa House, Adlington Park, Macclesfield, SK10 4NP.

... 32-bit Acorn home computers ...... Commodore Amiga ...... IBM PC /compatibles ...

10 out of 10

The *10 out of 10* Series

Rapidly becoming Britain's favourite choice in educational software

Try it FREE!

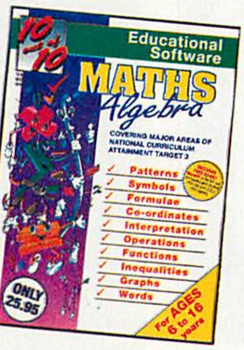
Maths (Algebra)

For children 6 to 16 years

"*10 out of 10* Maths (Algebra) meets all the criteria for an outstanding educational program and fully deserves first place as the Edutainment Program of the year. Ten out of Ten for it!"
– *Amiga User International (January '94)*

THE BEST EDUCATIONAL GAME of 1993

"This pack is very good. It is well suited to both home and school use. It encourages good skills, like searching for patterns and estimating. Also it's available on approval, so what are you waiting for?"
– *Acorn Computing (December '93)*



Junior Essentials

For children 5 to 11 years

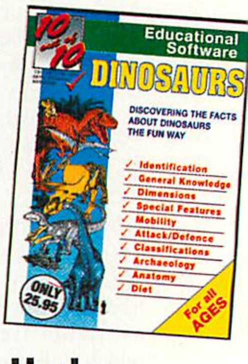
A truly flexible package covering many topics essential for building a good educational foundation. The areas covered have been carefully chosen by a team of experts and come from several subjects and levels of the National Curriculum.
The child's progress in these areas is constantly monitored and recorded and parents or teachers can easily discover where a child needs help.
As with all the *10 out of 10* series, further motivation to play the games and learn more is added in the form of High Score Tables.



Dinosaurs

For all ages

This package is the fun way to learn the facts about dinosaurs. The six games all have superb digitised graphics to make a whole area of history – dinosaurs – come alive.
If you came face to face with a tyrannosaurus would you run away? Or are you safe because it's a vegetarian and wouldn't eat you? This, together with 100s of other interesting facts, can be discovered from this enthralling package.
The six games – all with single and multi-player options – are educational fun for everyone.



Maths (Number)

For children 6 to 16 years

"Well thought out to offer real benefits to children studying in British schools."
– *PC Plus (July '93)*

"Educationally worthwhile and exciting to play – a rare combination."
– *Archimedes World (December '92).*

"Unique in home-based programs because of the National Curriculum link."
– *The Micro User (September '92)*

"Excellent for reinforcing specific mathematics knowledge."
– *Junior Education (July '93)*

"The *10 out of 10* Series lives up to its name." – *PC Home (August '93)*



Early Essentials

For children under 7 years

"Outstanding. All of the activities are not only very enjoyable but they're well thought through. It's one of the best multi-purpose infant packages I've seen in a long while. If you have young kids get it for the home. If you're a teacher, hammer on the headteacher's door and beg for money to buy a copy."
– *Archimedes World (July '93)*

"At just £25.95 you'll be hard pressed to find anything which even comes close to Early Essentials."
– *Micro Computer Mart (Sept. '93)*



English

For children 6 to 16 years

"Everything being done is relevant to the player's education. An invaluable curriculum experience, plenty of fun, lots of variety."
– *PC Home (November '93)*

"Guaranteed to sustain the attention of even reluctant learners."
– *RISC User (January/February '93)*

"Most importantly, as the games are fun, children can't help but learn."
– *Acorn Computing (March '93)*

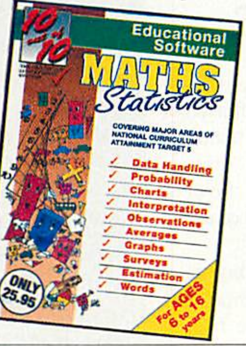
"Allows progression from Junior school age right up to GCSE level."
– *Amiga User International (Sept. '93)*



Maths (Statistics)¤

For children 6 to 16 years

Attainment Target 5 of the National Curriculum is Data Handling – a vital area of Mathematics. *10 out of 10* Maths (Statistics) covers 36 specific topics from that subject.
In this package, recording animal sightings in an animated pond or rolling dice are just two of the many challenges that children will relish as they learn about statistics. And can graph drawing be a game? It becomes arcade action as bricks and bombs are dropped onto the charts. This is a really enjoyable way to learn about statistics.



French¤

For children 6 to 16 years

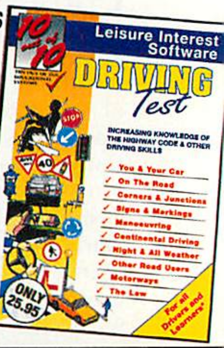
This suite of six educational games will give fun and motivation to all children learning French. The package is designed with the Modern Languages National Curriculum firmly in mind and contains many challenges to reinforce facts stated in Attainment Targets 3 and 4.
10 out of 10 French is essential for children on Key stages 3 and 4, but the numerous parent and teacher customisation options make the software suitable for all children – however young – who are learning the French language.



Driving Test¤

For all drivers and learners

Whether you're a novice learner or an advanced expert, there's plenty you can learn from this package.
There are thousands of built-in questions and you can choose whether you want to answer them directly or add to the fun by trying them within games.
The six games have been designed to be fun for all drivers and include strategy, mental agility, coordination and more. And, if you think you are up to it, you can "*take the test*" – a challenge covering many areas of the Driving Test.



The INNOVATIVE *10 out of 10* Series

These highly acclaimed suites of programs are a revolutionary step forward in educational software. They ALL use a unique system of automatically recording children's progress as they play and learn. This is just one of the many features which sets the 10 out of 10 Series in a class of its own.

Each package contains **SIX** expertly designed educational games **covering TEN essential areas** of a child's education. All packages cover a **wide age range** and subjects are available for all children from three to sixteen years of age.

As children learn from the games their progress is **automatically recorded in 36 specific challenges** – the National Curriculum Attainment Targets of these areas are optionally displayed on screen in subject-based packages. All the programs are **designed in Britain** to be **fun for single players or groups** and the assessment system can monitor the progress of up to 4000 children with **no input from parent or teacher** needed. Watch them, join in the fun or leave them and return later to check their progress. **You're in control!**

Already used in over 6000 schools

Phone 0742 780370 for a FREE TRIAL!

We are so confident you'll like *10 out of 10* software that we'll let you try it FREE. Ask for a free trial* and we will not bank any payment until you've had chance to test the programs yourself.
DEMONSTRATION VERSIONS are also available – each subject is on a separate disk. They cost £1 each. This will be refunded when you order the full version.

A CHANCE TO EARN MONEY

You can EARN MONEY by recommending *10 out of 10* – over £5 for every order you generate. Ring 0742 780370 and ask about the *10 out of 10* Agency scheme now!

HOW TO ORDER ...

The 10 out of 10 Series is available for Acorn 32-bit computers (Archimedes), Commodore Amiga and IBM/PC and compatibles. At the time of going to press, titles marked ¤ were not available on all formats. Please ring for availability. Each package is ONLY £25.95 and you can order by CREDIT CARD, CHEQUE or EDUCATION AUTHORITY ORDER.

If you ask for a free trial* we will send you the software without processing the payment. If you do not wish to keep the package, return it to us within 14 days and we will return your ORIGINAL cheque or order or not process your credit card for payment.

Order by Post or Phone from:
10 out of 10 Educational Systems
1 Percy Street, Sheffield, S3 8AU
VISA ☎ 0742 780370 / 769950 Access

Site and Network Licences are available – please ring for details.
* The free trial may not be used in conjunction with any other offer.

The *10 out of 10* Series is available from all good computer software suppliers

Antipodean Liaison

ONE of my many reasons for visiting BETT this year was to meet a group of Australians and New Zealanders who were visiting Great Britain, having been jointly funded by the DTI (Department of Trade and Industry) and BESA (British Educational Support Association).

They included teachers, educational advisers, software developers and retailers and were here for two weeks visiting a variety of places including BETT, some software houses, hardware manufacturers and schools and colleges.

The itinerary planned for the party was full to say the least, especially after a 27-hour flight, which in itself seemed like a test of endurance.

Pete Dailhou is the Manager of the Technology in Education Team and is based at the Penrith Education Resource Centre in New South Wales.

The centre uses PC, Apple and Acorn platforms and has a room full of each. As far as educational material is concerned, he felt Acorn were streets ahead of the competition: in fact, the PC market represents no competition in this area. Apple too, he felt, left much to be desired in education, although they were catching up fast.

Other members of the entourage were Gawain Duncan, Technology co-ordinator at the School of the Future in South Australia and Paul Holland, from the Department of Education in Queensland.

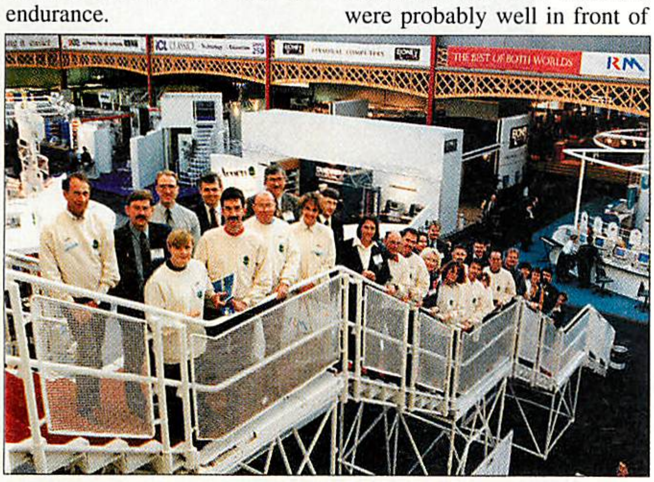
They came with several briefs, one of which was to look at software produced for UK education and to see how it could be used down under. In particular, they were keen to look at some multimedia applications.

Overall they were very impressed with both the quality and quantity, but remarked on the superb material being produced by Anglia TV and Interactive Learning Productions.

From previous meetings, I had formed the opinion that Australia and New Zealand were probably well in front of the UK in the ratio of computers to children, but in terms of software about level with us.

At a guess, Ross Polson from New Zealand thought there was probably one computer per 15 students at secondary level, but only about one per class in the primary sector.

The latest UK figures show an average of 58 computers per secondary school, and about seven per primary school, which works out about the same. Australia, however, has plans to significantly increase the number of computers for primary schools during the next three years.



The Australian and New Zealand visitors at BETT

Primary Schools

IN 1980, the government announced the Micros in School Scheme. That initiative, and subsequent ones, put this country number one for IT in schools. It now seems clear that this position has been all but lost. Worse still, the primary schools have suffered most, due to the appalling lack of funds.

It was recently announced that by 1992 primary schools had on average seven computers each. My local primary school does have seven, but these are to be shared by almost 180 pupils.

If that's not bad enough, the computers are three A3000s (2Mb), three BBC Masters and one BBC B. They have a dot matrix printer and a turtle, and they recently bought a colour printer with the proceeds from a series of coffee mornings. As for networking, CDs, and digitisers – forget it.

This month I've looked at some superb software from companies like Sherston, BBC Longman, and several others (see pages 75 to 85). I would like to think that every child in this country will have access to all of it, and more.

I rather think that unless someone feeds in some serious money, that vision may be further away than any of us would like to think.

Clip Art Discs

CALL me unimaginative, but does anyone ever use this stuff? Some clip art, it has to be said, is produced to a very high standard and will provide a valuable resource for students to dip into and incorporate into a document.

I've got about 20 Mb of carefully vetted clip art on my school network, but I filtered it out of at least twice that amount! I can't imagine anyone wanting any of it. The problem, appears to be two-fold. First there is the subject matter, which in some cases is obscure to say the very least. PD clip art seems to be the worst for this: are American road signs useful?

Then there is the quality, or rather the lack of it. Since outlining programs (which convert from sprites to *Draw*) have appeared, there now seems to be a wealth of second-rate scanned images, poorly outlined and offered at ridiculous prices. Beware!

Technical Support

MOST of the software houses offer technical help and support for their products over the phone. In the main, they bend over backwards to help answer questions which, if we're honest, can usually be answered by looking in the manual.

After almost six months' of phone calls and letters to one software house I have yet to receive a satisfactory answer to a technical query: 'Why doesn't your program do what it's supposed to do?'

After being promised several times that I would receive a call from the person who's supposed to have the answers (which never came), I phoned yet again. That call finished when I was told that another company would be producing a program that would do what this was supposed to, but never consistently did. What an extraordinary way to do business.

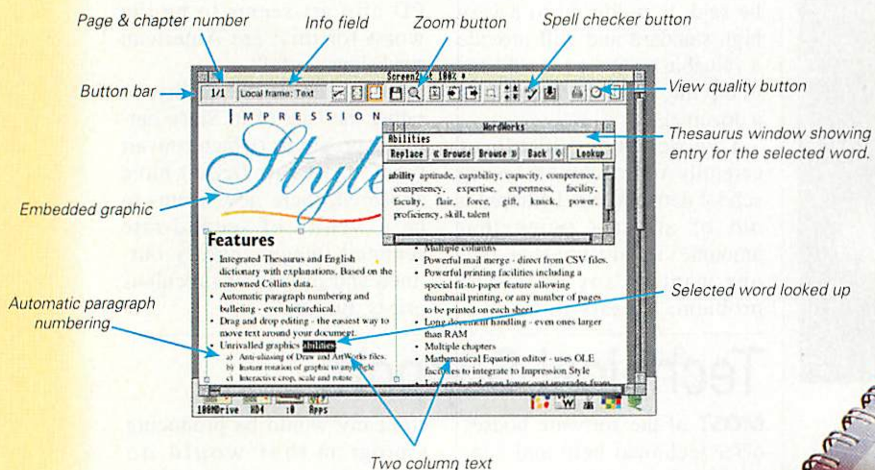
I would be very interested to hear from other teachers (or indeed anyone else) who have experienced similar problems.

As a postscript, the software house in question has just sent me what I assume is an upgrade, but this version performs no better than the previous one!

You can contact the Education page by writing to me, Geoff Preston, at Acorn User, Europress Enterprise, Europa House, Adlington Park, Macclesfield SK10 4NP.

IMPRESSION Style

Impression Style is the newest word processor member of the Impression family, and the most comprehensive and powerful version so far released. Over the last few years Impression has become the most successful 32-bit Acorn software application and while Impression's DTP capabilities have been renowned, the fact is that most users use it as their day to day word processor. Impression Style is a major update, with special attention paid towards improving the word processing abilities still further, and making it even easier to use than before. So, for example, it now includes automatic paragraph numbering and



two sorts of on-line help amongst dozens of other improvements.

For those with technical writing needs it includes a mathematical equation editing utility and table building utility. For writers it includes what Archimedes World called "the superb WordWorks dictionary and thesaurus package." Other features that help make Impression Style a better text processor include automatic abbreviation expansion - one of the greatest time saving features available, drag and drop editing, an optional, configurable tool bar, along with firm favourites such as spell check as you type.



In a *modern* world of computer software we have *created* a package to leave you with a lasting *impression*



Archimedes World summed it up by calling it "a document processor of immeasurable power and sophistication."

And for those who need complete control over the page layout and appearance, Archimedes World and Acorn User magazines both had exactly the same conclusions - "Style itself is currently the best DTP package available."

"Importing foreign formats is one thing Style handles better than any other package I have encountered."

"The manuals are brilliant and offer full details on the use of the software. In fact, these manuals are so good, it seems unlikely that there will be much need for supplemental books from third party publishers."

"At the end of the day, Impression Style is a superb product for the relatively small asking price."

***Archimedes World*, Feb 1994**

"Impression Style represents ridiculous value for money."

***Acorn User*, Jan 1994**

"There is no other product on the Acorn platform to touch this, whether at the £100 asking price point or at £500. Every writer should own a copy."

***Archimedes World*, Feb 1994**

If you use your computer for word processing, then shouldn't you make sure that you use the best tools available?

Impression Style upgrade options

Upgrade from	Cost (ex VAT)	Total cost inc p&p and VAT
Impression Junior	£29 + VAT	£37.60
Impression II	£29 + VAT	£37.60
Other word processors †	£70 + VAT	£82.25

† Other word processors include: Pipedream, Wordz, Ovation, First Word Plus TechWriter, EasiWriter, StartWrite and Acorn Advance. To upgrade simply return your key / master / N°1 disc with payment to Computer Concepts.

Impression Style RRP £99 + VAT (£116.32 inc)

Refer to table for special upgrade offers.

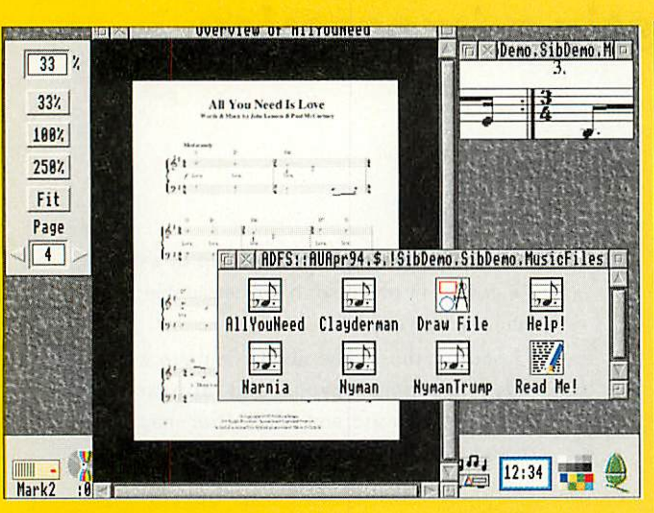
2M*bytes* RAM *recommended*

Low cost educational site licences available.

Full specification available on request.

Computer Concepts Ltd
GADDESDEN PLACE, HEMEL HEMPSTEAD, HERTS HP2 6EX.
TEL: 0442 63933 FAX: 0442 231632
EMAIL: Info@CConcepts.co.uk.

THE ACORN USER



Sibelius 7 demo



By Sibelius Software

Sibelius 7 is an expert system for processing music – in other words, inputting music using a MIDI keyboard or mouse, editing it as music notation and then playing it back through the computer's speaker or MIDI, or printing it out.

It's a complete tool for composing or arranging music straight onto computer and is now used by some of the world's best-known composers. Perhaps its most spectacular success to date has been in the music publishing industry, where one would normally expect to find only Apple Macs and IBM PCs.

However, because *Sibelius 7* for once knocks spots off anything available on other computers (read the *Reviews* file on disc if you don't believe it, or take a look at our more than complimentary review in February's issue), these professionals are drawn to invest in Acorns instead. But of course, printing music is just one aspect of what *Sibelius 7* does.

This demo version is complete except that the following features have been disabled:

- MIDI input and output
- Printing
- Saving
- Exporting *Draw* files

If you want some spectacular printouts, phone Ben Finn at Sibelius Software on (0223) 302765. You can also go and see it in action – Sibelius holds regular demonstrations in Cambridge and London, mostly for professional musicians whose eyes pop out on stalks at the Acorn's capabilities.



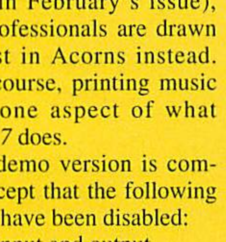
Nigel Gatherer's clip art column

By Nigel Gatherer

This month Nigel has created a file of clip art with an infinite number of applications. The Logo Alphabet is exactly what it sounds like: each letter of the alphabet is contained in the *Draw* file, all in different styles. These letters can be used as drop capitals, for doing fancy lettering, or for inspiring you to design your own crazy alphabets. The designs range from the woodcut effect of 'W' to the target-like 'Q' or the completely modernistic 'M'.

Not only is this a useful collection of cleverly-designed characters, it is a showcase for all sorts of design concepts, from classic to modern. Investigate and enjoy.

*INFO



Often compared to a flea market but without all the rubbish, *INFO continues to provide the most mixed up pot pourri of programs that you'll see this side of your computer screen. Forget virtual reality: this is much more interesting. Trip to page 103 for more info.

Basic



If we get one more letter about the title of this series and how amusing it is in light of the government's plight, then that will be two letters we've received on the subject; the subject this month being returned parameters and recursion. Get back to basics on page 95.

COVER DISC

Historical clip art



Our article on National Curriculum History on page 79 mentions a number of useful clip art resources, and on the disc are examples of some of the best historical clip art collections.

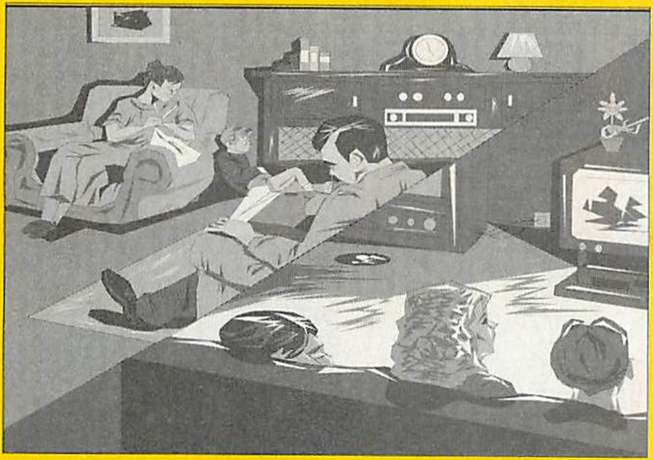
First up is Anglia Television, with a couple of examples of clip art from the *Aztecs* and *Britain since 1930* packages. Anglia TV can be contacted on (0603) 615151 x2445.

Next is Desktop Projects, with an example of tudor clip art from the Costumes disc. Desktop Projects Ltd is on 061-474 0778.

Then there is SEMERC with examples of Aztec and Egyptian clip art from the excellent Just Pictures series. SEMERC is on 061-627 4469.

Finally there is an example of clip art from Sherston's Egyptian Arcventure program. Sherston is on (0666) 840433.

Included with all this clip art are a number of text files, containing critical analysis and product details from our Education Editor, Geoff Preston.



Demo writing

By Mark Hobson



We've all seen those crazy graphical demos that appear in every PD library across the country, and now you can create your very own tailored demo using *Acorn User's* modular demo system.

The first instalment in this series contains a scrolltext, complete with all the source code necessary to display your own messages on screen.

There are a number of waveforms defined in the program so you can send your text all over the screen in strange waves, but of course the waveforms are user-definable so you can invent your own crazy formations.



If you want to see the ready-compiled demo in action, simply run the file called *Demo* on the disc by double-clicking on it. You'll see a typical demo-style message rushing across the screen and doing all sorts of strange contortions in front of your very eyes. Just wait until later in the series when you'll get star fields, reflections and bouncing balls. Honestly!

PD Scheme

If you've ever wanted to submit your masterpiece to a magazine, but are worried that you'll lose the copyright, don't worry. With the unique *Acorn User* PD Scheme you retain all the publishing rights to your programs, so fi you want to develop your software further, or release it into the Public Domain, that's not a problem.

The crux of the scheme is that the software must not be published anywhere else for three months after it appears on our cover disc, after which you can do exactly what you want. And of course we'll pay you for letting us publish your work, so you can't lose.

If you want to submit any programs for consideration for the cover disc, then send a disc and covering letter to Acorn User Cover Disc, Acorn User, Europress Enterprise, Europa House, Adlington Park, Macclesfield SK10 4NP. If possible, please enclose instructions for using the programs on the disc in a text file, and to ensure a swift turnaround, please enclose an SAE.

We look forward to hearing from you.

Disc problems?

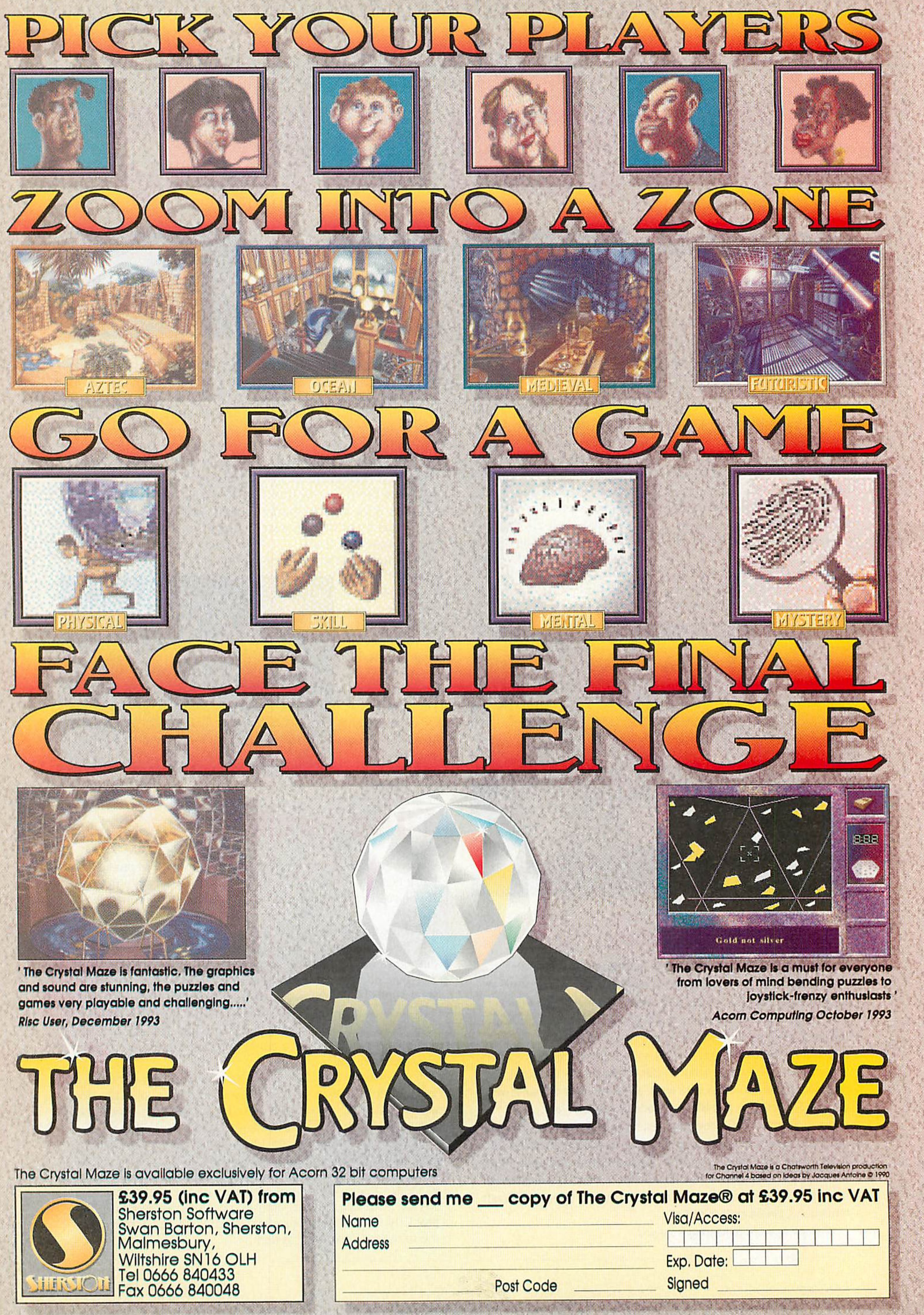
Our cover discs are thoroughly tested at each stage of production, but it is possible that one or two faulty discs may slip through. If you suspect that your disc is faulty, then do the following to check it:

1. Put the disc in your drive.
2. Click Menu (the middle mouse button) over your floppy disc drive icon, on the left of the iconbar.
3. Click on the Verify option, and a window will pop up, showing the verification process as it proceeds.

If the verifying process finishes with no errors (the window says 'Disc Verified'), then your disc is not physically faulty and you should contact the editorial office at the address given on the contents page.

If an error is reported, however, your disc is faulty and it will be replaced free of charge. Send it with your name and address to: PC Wise Ltd, Dowlais Top Business Park, Dowlais, Merthr Tydfil, Mid Glamorgan CF48 2YY

Most of the programs on the *Acorn User* Cover Disc are compatible with both Risc OS 2 and Risc OS 3. However the discs are only tested on the new system, and we cannot guarantee that everything will work with the old system. Our advice is to upgrade as soon as possible, as compatibility problems will occur more often as software developers make use of the new operating system.


PICK YOUR PLAYERS
ZOOM INTO A ZONE
AZTEC
OCEAN
MEDIEVAL
FUTURISTIC
GO FOR A GAME
PHYSICAL
SKILL
MENTAL
MYSTERY
FACE THE FINAL CHALLENGE
' The Crystal Maze is fantastic. The graphics and sound are stunning, the puzzles and games very playable and challenging.....'
Risc User, December 1993
Gold not silver
' The Crystal Maze is a must for everyone from lovers of mind bending puzzles to joystick-frenzy enthusiasts '
Acorn Computing October 1993
THE CRYSTAL MAZE
The Crystal Maze is available exclusively for Acorn 32 bit computers
The Crystal Maze is a Chatsworth Television production for Channel 4 based on ideas by Jacques Antoine © 1990
SHERSTON
£39.95 (inc VAT) from
Sherston Software
Swan Barton, Sherston,
Malmesbury,
Wiltshire SN16 OLH
Tel 0666 840433
Fax 0666 840048
Please send me ___ copy of The Crystal Maze® at £39.95 inc VAT
Name
Address
Post Code
Visa/Access:
Exp. Date:
Signed

The Acorn User Spring Show

It's springtime, and the Acorn User Show is nearly upon us. Get the details here.

Last year's *Acorn User* Spring Show was a definite success, and the 1994 event promises to be even more exciting for budding Acorn enthusiasts.

Shows are the best places for companies to announce and launch new products, with special show offers and the opportunity to 'try before you buy', and the Harrogate show will be no exception to the rule.

Opening on 22 April, and going through until 24 April, the Spring Show is the main Acorn event outside London, and gives a chance for all loyal Acorn users to travel to an Acorn event in their area.

The show is easy to reach from Manchester, Leeds and York, and Harrogate is a beautiful and interesting place to visit in its own right. On the other hand, we fully anticipate that most of you will want to spend the weekend indoors, hunting down your favourite companies...

Loads to see

This year's show is being held in a larger hall than last year, with well over 50 exhibitors catering for education, business, entertainment and more. For a thorough look at all the exhibitors, turn to page 34 for our stand-by-stand guide and show map.

A new feature of the Spring Show will be the free theatre, offering a programme of events to entertain and inform every Acorn enthusiast. The stage will contain a giant computer and monitor for projecting visual displays, and you can rest assured that there will be all sorts of presentations, from the informed to the interesting and incredible.

Some exhibitors have not yet revealed the exact themes of their presentations, so expect the unexpected. The *Acorn User* team will also be turning up, so why not come along and find out what makes us tick – if you really want to know!

Turn to page 37 for the complete programme.

Competitions

For those visitors with time to spare, taking part in the Human Computer Game is the ideal way to explore the show, and also offers the opportunity to enter a draw for a spectacular prize of hardware and software. The game is open to all visitors, and can be played by both young and old alike.



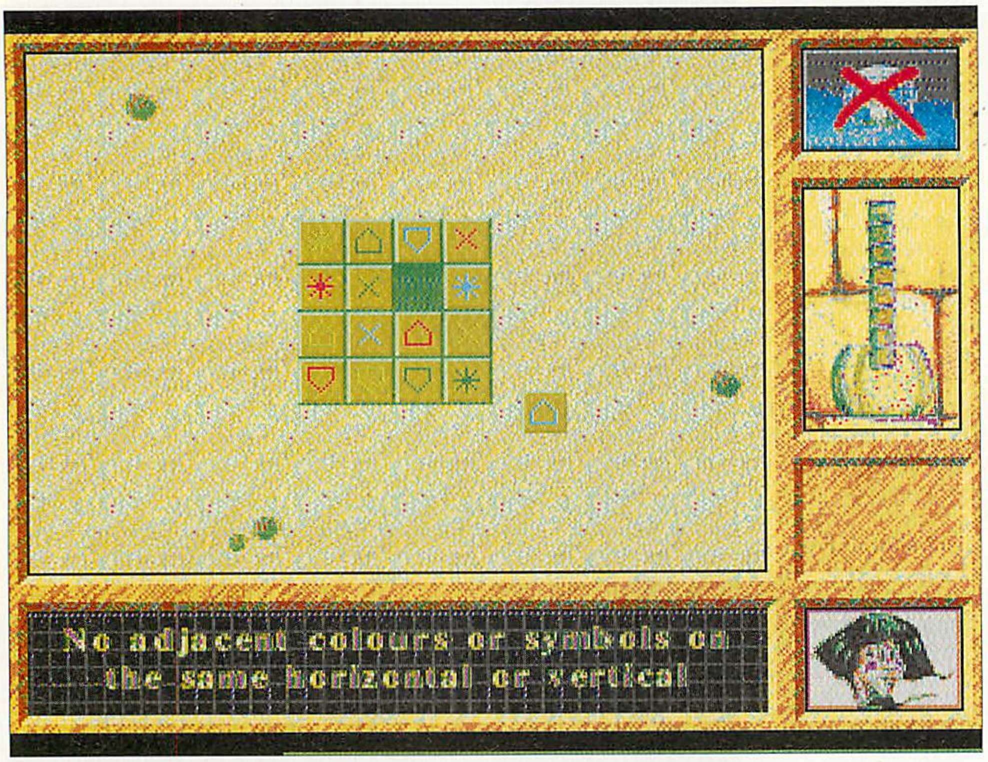
Want to know what's under the sheet? You'd better come to the show, then

The idea is to explore the show, looking for various symbols and tokens. By carefully noting down the information collected on the entry forms and using a little skill, the secret message will become clear. The game is going to be based around the Dungeons and Dragons style of game, with visitors collecting various parts of a magic computer – disc drives, memory chips and so on – which they assemble on the entry sheet provided.

When that is complete, you need to go to the Guildmaster, who will let you out of the dungeon and enter you into the prize draw. As the game will be based on Silicon Village's excellent multi-user role playing game *Avatar*, you can be guaranteed a great time at the limits of your imagination.

On the subject of competitions, a number of schools, mainly in the Harrogate district, are taking part in a pre-show competition designed to demonstrate their skills at using computers, and also to encourage their imaginative talents. The competition is split into three age groups, and the brief is to produce an eight-page A5 book consisting of graphics and text on each page.

The basis of the book will be a local issue or story, but it need not be factual and could cover anything from the ecology of Yorkshire to ghost stories of the Dales. All the entries will



Come and see The Crystal Maze in action at the show

be on display at the show, and the winning entries from each age group will receive special attention. In addition, the winning team of the Under 11 group will have their book transformed into a Talking Book, courtesy of sound and picture specialists, Wyddfa Software.

Newspaper

A popular feature of past *Acorn User* shows has been the Show Newspaper. This is produced at the show on Acorn DTP equipment, and this year the newspaper is sponsored by Risc Developments.

Children from a local school will be using *Ovation* to create the newspaper, and visitors will be able to see the children creating the layouts in front of their very eyes. Cub reporters will be running round the show, interviewing visitors and exhibitors to prise out the most sensational stories possible, just like in the real world of journalism. So if you get tracked down by a real newshound, don't worry: you could be famous for a day!

The Crystal Maze

Sherston Software has thrown down the gauntlet to all those who have purchased *The Crystal Maze* by inviting users to enter a team into this unique show competition.

Visitors to the show will be able to watch the excitement build as the selected teams undertake the mind-blowing challenges presented by the program. Each team will have to battle against various obstacles, mental and physical, to qualify for the grand head-to-head final showdown in the show theatre.

Sherston will even have some of the actual games from the TV show on its stand, so you can go along and watch people prove how inept they really are, while the crowd thinks 'I can do that'.

Club corner

The Club Corner is another new feature for this year's show. Dedicated to all those users who want to stretch their computers to the absolute limits, and want to hear all the latest underground gossip in the world of the Acorn hacker, the Club Corner will represent some of the most popular clubs and user groups from all over the country.

The Arm Club will be at the show in force, along with the Wakefield User Group, 8-bit Software and Illusions Disc Magazine. Why not go along for a chat: you'll no doubt find someone eager to argue the pros and cons of absolutely any aspect of Acorn and its computers.

Product locator

The irrepressible town council of Silicon Village will be running a computerised product locator from their stand in the centre of the show. This specially-designed locator will enable visitors to find out where stands are and to examine the full show guide on-line.

The most useful feature will be the ability to search the guide by keyword, so if you want to find out all the stands that sell printer drivers, for example, it's a simple matter of typing in the right keyword.

Games galore

Hot off the press, there will be a number of exciting new games launched at the show. Krisalis will be showing off the long-awaited Bitmap Brothers classic, *Speedball 2*, while the Fourth Dimension will have the latest game from prolific author Gordon Keys, entitled *The Time Machine*. And that's not to mention existing classics like *Sensible Soccer* and *Lemmings 2*.

The latest games gossip is that two excellent American conversions – *Flashback* and *Scrabble* – will be released at the Show. But you'll have to come along to find out...

Voucher scheme

Exclusive to *Acorn User*, on page 39 you'll find a collection of special show vouchers, with a massive collection of money-off schemes for some of the most popular products available at the show.

If you intend to buy anything at the show, or are simply bargain hunting, don't forget to take this copy of *Acorn User* along to claim your bargains.

Show details

The show will take place in Hall C of the Harrogate International Centre, Kings Road, Harrogate, between 22 and 24 April (Friday to Sunday). Opening times are 10am to 5pm daily.

Tickets

- **Adults: £4 advance (£5 on the door)**
- **Under 16: £2 advance (£2.50 on the door)**
- **Family £10 (£13 on the door)**

A family ticket will enable two adults and two under-16s into the show. To obtain advance tickets, call Safesell Exhibitions on (0737) 814713.

Travel

Rail – Take the train to Leeds or York and change for Harrogate. The Harrogate International Centre is a few minutes walk from the station.

Road – Harrogate is close to the A1, and is roughly a 20-minute drive from Leeds or York.

DIGGERS

HEY HO, THERE'S £500 OF PRIZES TO GO

MILLENNIUM are celebrating their entry into the Acorn world with a mega competition, exclusive to readers of *Acorn User*. The first Acorn release from this celebrated 16-bit games house is the impressive Diggers ...

Sound, graphics and gameplay, which have scored high on all platforms, transport you to a strange planet full of delving miners – the planet Zarg. You are an alien and the four different races look to you to control their need for gems.

You have a team of five to exploit the land, avoiding the occasional nasty in your endless toil. But money does buy you a little help if you can get back to the shops ...

On offer

There is over £500 of prizes to be won, with £250 of hardware on offer from Acorn themselves for the first correct entry pulled out of the sack. PLUS 10 copies of Acorn Diggers for the runner up prizes. What are you waiting for?

What to do

To win one of the prizes, your first step is to find five gems hidden in this wordsearch. Succeed here and move on to the entry form. Make sure your answers get to the Acorn User offices before the deadline of 29 April 1994.

Result information maybe obtained by writing to our offices. No cash alternative to the prize is available. The editor's decision is final. No correspondence will be entered into.

W	R	T	E	J	L	S	F	G	H	T	W	S	C
D	I	A	M	O	N	D	D	D	F	E	J	C	V
K	J	H	E	E	L	S	A	P	P	H	I	R	E
S	A	D	R	I	O	P	G	F	X	B	U	U	L
K	O	P	A	T	E	A	R	D	S	O	P	B	P
M	E	T	L	O	P	A	L	R	A	I	L	Y	P
W	E	D	D	I	N	G	R	I	N	G	E	R	I

Entry Form

Name ....
Address ....
.... Postcode ....
Tel: ....

[ ] I do not want to receive mail from other companies

Now send your complete entry to: Diggers Competition, *Acorn User*, Europress Direct, PO Box 2, Ellesmere Port, L65 3EA.

Stand by Stand

Acorn Computers

Centre

It goes without saying that Acorn, the market leader in Risc-based personal computers, will of course be present at the show. Precise details of Acorn's stand remain a closely-guarded secret, but Acorn can reveal that this year's show promises to be a spectacular occasion, definitely not to be missed by any Acorn follower, be they a technical enthusiast, education or family user... so make sure you get your tickets early.

Acorn User

Main Stand

Come along and see us in the flesh! We'll be there to answer your queries about anything under the sun, and you'll be able to tell us exactly what you think of *Acorn User* and the Acorn market. Definitely a stand not to be missed.

Anglia Television

Stand 35

Anglia will be showing its range of CD-Roms, such as *19th Century Biographies*, *Countries of the World* (both for use with *KeyPlus*), *Understanding the Body*, and *Castles*. Also on show will be a selection from new CDs to be released later this year, including *Counties of Britain*, *World War II*, and CDs on weather and energy.

Another launch is the *Lenses and Light* datafile and spreadsheet package for use with *KeyPlus* and *KeyCalc*.

Finally, *In Ancient Egypt* is a resource pack for exploring Ancient Egypt.

Apricote Studios

Stand 21

Apricote will be launching *Personal Accounts* Version 3 which has features not found on any other personal accounting package on any other platform.

There's also the latest version of *Prophet* on show, as well as a new version of *Shares*.

Beebug

Stand 11

Acorn's biggest consumer dealer will be making very competitive offers on all its packages, such as the A3010 Action Pack (which comes with two free complete games), the A4000 with free Learning Curve, and the A4 portable with 4Mb, a fast 210Mb hard drive, and a free spare battery pack. If you want value for money, says Beebug, you should check them out. And why not?

Cambridgeshire Software House

Stand 103

CSH will be showing off its range of educational software, including *Mazes and Maps*, *Complete Control*, award-winning *Frontier 2000*, *Cars: Maths in Motion* and Canon Ion cameras. There will also be a new version of *Gemini* released which now has sound included.

Castle Technology

Stand 97

Castle will be showing off its range of replacement keyboards, including a new silent keyboard. They all work correctly with the A4, which normal Acorn keyboards do not, and Castle provides a whole range of foreign keyboards.

Also on show will be the Samsung monitor reviewed last month, computers, hard discs, printers, and a new version of *CadMust*.

Clares

Stand 113

The big release from Clares will be the *ProArtisan 2* Photo CD, which contains a Photo CD-compatible version of *ProArtisan*, along with a collection of images.

Several products will also be on show including *Schema 2*, *Plot*, *NightSky*, *Rhapsody 3*, a new version of *ScoreDraw*, and there'll even be some price reductions announced at the show.

Colton Software

Stand 12

Colton will be showing off its integrated package *Fireworkz*. There will be more additions to the range of ClassCardz for education, with a collection of educational support materials to help teachers get the best out of *Wordz*, *Resultz* and *Fireworkz*.

There will also be news on the development of the third member of the 'Z' family, *Recordz*, which is due to be released later in the year.

Computer Concepts

Stand 85

Computer Concepts' long-awaited *Impression Publisher* will be the main item on the CC stand. Existing *Impression* users will be able to upgrade to *Publisher* at the show.

Also on the stand will be the new Mac disc reader/writer, and the newly launched JPEG and Photo CD readers. Apart from these new releases, CC will be demonstrating its full range of products, such as *ArtWorks 1.5*, LaserDirect printers, TurboDrivers and more.

The Datafile

Stand 110

Public Domain is huge, and The Datafile is catering for this by releasing a collection of eight-disc packs for those new to PD. Each pack will sell for just £10, so if you want to get into PD this could be the stand for you.

Also on show will be The Datafile's huge range of official URW fonts – now available in a pic 'n' mix format – and the new Medieval and Gothic Pack 2.

Digital Services

Stand 57

Launched at the show will be a new range of Ethernet cards – the fastest for Acorn computers – including a bridge card enabling four networks to be connected together with filtering.

Other items include *Squirrel 2* (as reviewed this month), *Waiter*, a new Digistore tape streamer storing up to 2Gb on DAT, *ArmLock*, and *NetGain*.

Fourth Dimension

Stand 109

New from the Archimedes games specialists will be the Augusta course for *Virtual Golf*, and a whole set of extra courses for that excellent driving game *Stunt Racer 2000*. Something to watch for will be a big new title from Gordon Key entitled *The Time Machine*, the follow-up to *Haunted House*.

10/10 educational software will also be on the stand with its new driving test package, and the complete range of 10/10 titles. As 10/10 always produces Acorn versions of its software first, this is the place to see the latest titles.

Gamesware

Stand 80

Games fans will be glad to know that the *Simon the Sorcerer* CD will be released at the Show, along with a new compilation range to rival the *Play it again Sam* series.

The Power Stick is a new joystick which plugs into the parallel port of your computer, and a new version of *James Pond 2*, called *James Pond 2+*, will be launched. You'll also be able to catch a glimpse of Gamesware's future products.

HCCS

Stand 22

To celebrate the launch of the first double-speed CD-Rom drive for the Ultimate

Expansion System, HCCS will be offering the Ultimate CD-Rom at a special show price.

Also on show will be the 24-bit video digitiser from Vision 24, again with show discounts. There is also an upgrade scheme for existing Vision users.

Ian Copestake

Stand 105

Available on the ICS stand will be a new range of Syquest removable hard discs, as well as an extensive range of IDE drives. Also on show will be a huge selection of competitively-priced Acorn software.

Icon Technology

Stand 61

Icon will be celebrating its tenth birthday with a new version of *StartWrite*, to make it compatible with the requirements for the Somerset Talking Wordprocessor Project. The speaking side of the wordprocessor is much more comprehensive, and can speak sounds, sentences and now supports word lists.

The latest versions of *EasiWriter* and *TechWriter* will also be demonstrated.

Integrex Systems

Stand 15

The printer experts will be showing a full range of colour printers, which, for the first time, will include a 300x600 dpi colour printer. Also on show will be Integrex's own 24-bit colour scanners, and colour printer solutions from HP and Canon, including the new HP DeskJet 560C, and the Canon BJC-600.

Iota Software

Stand 43

Iota will be demonstrating *Image Animator* in the Show Theatre, and on the stand you can find out how to use it to create all sorts of animations for home video.

A new version of *DataPower* (as reviewed in this issue) will also be on display; new features include the ability to incorporate image animations into records.

Irlam Instruments

Stand 49

ImageBank will be enhanced to include *Draw* file support, squeezed *Draw* files, a slideshow facility and faster JPEG decompression routines.

There will also be new software for the colour handscanner which will include new features such as better image quality and calibration for each hand scanner.

On show will be direct-to-disc scanning, and the ability to update the picture on screen in real time. Stitching software should also be demonstrated.

There may also be more developments for Replay: keep your eyes peeled.

Krisalis Software

Stand 91

Speedball 2, the eagerly-anticipated Bitmap Brothers game, will be released at the show. You can also see all the latest titles in action, like *Lemmings 2* and *Heimdall*, as well as the budget range on the Buzz label.

Lindis International

Stand 59

The graphics presentation package *CableNews* has now been enhanced to version 2, with a long list of improvements including OLE.

Also on display will be the latest version of the display package *Presenter GTI*, which has a number of improvements.

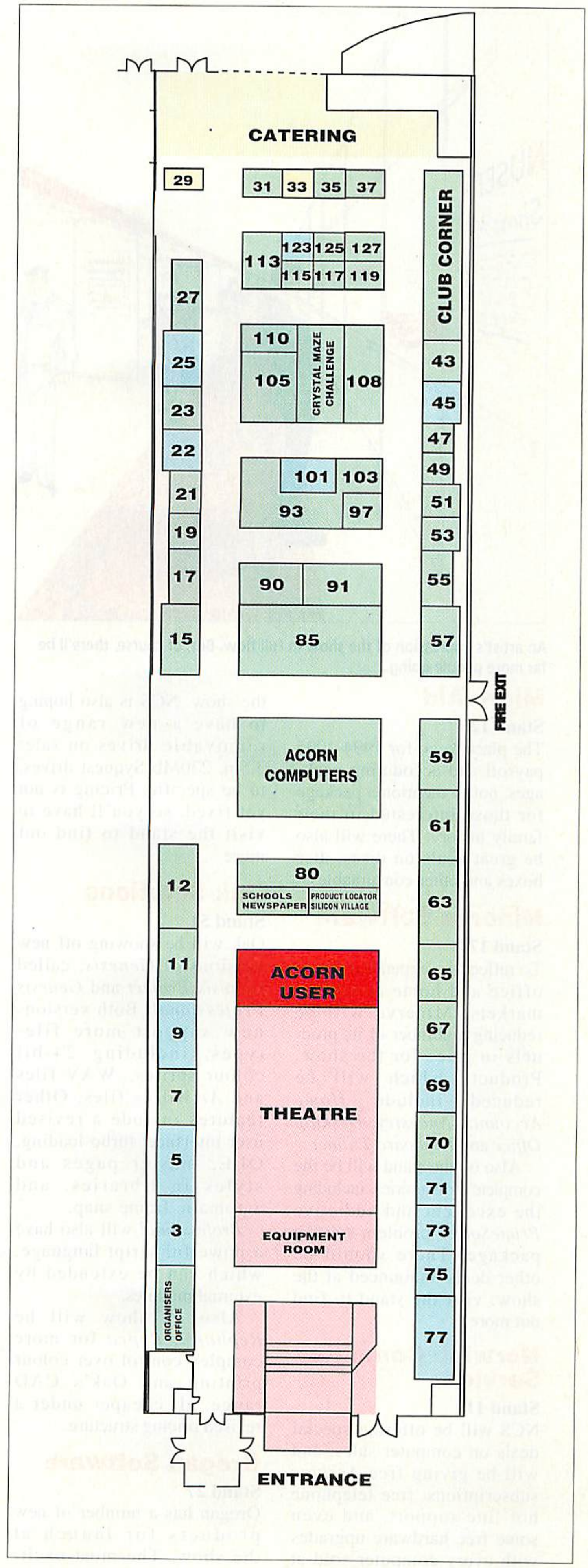
A new application under development is *Start*. This enables you to start up your system easily and efficiently. It is totally configurable, and should be especially useful for schools.

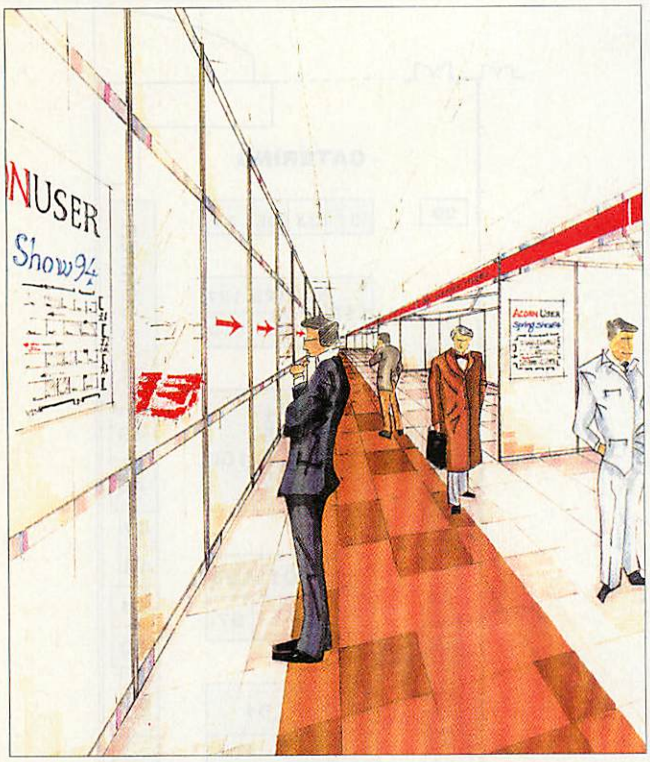
Longman Logotron

Stand 63

Longman will be launching *FirstPage*, a DTP package with a range of easy-to-use tools that work together to let anyone create impressive results.

Other new products are *Advantage*, the educational spreadsheet; 12 curriculum-based *Pinpoint* datafiles, covering key stages 1-2 (in *Pinpoint Junior*) and 3-4 (in *Pinpoint 2*); PIMS, the school management system and a new upgraded version of *Junior Pinpoint* which enables you to include graphics on each page and mono graphing.





An artist's impression of the show in full flow. But, of course, there'll be far more people going...

Micro-Aid

Stand 125

The place to go for 1994-1995 payroll and accounting packages, not to mention a package for those interested in their family history. There will also be great deals on discs, disc boxes and other consumables.

Minerva Software

Stand 17

To reflect the expanding home office and home education markets, Minerva will be reducing a number of its products in price for the show. Products which will be reduced include *Home Accounts*, *Ancestry*, *Desktop Office* and *Keyboard Trainer*.

Also on the stand will be the complete *Prime* series, including the excellent and addictive *PrimeSolver* problem-solving package. There should be other deals announced at the show: visit the stand to find out more.

Norwich Computer Services

Stand 119

NCS will be offering special deals on computer sales, and will be giving free *Archive* subscriptions, free telephone hot-line support, and even some free hardware upgrades with every computer sold at the show. NCS is also hoping to have a new range of removable drives on sale: 3.5in, 270Mb Syquest drives, to be specific. Pricing is not yet fixed, so you'll have to visit the stand to find out more.

Oak Solutions

Stand 51

Oak will be showing off new versions of *Genesis*, called *Genesis Project* and *Genesis Professional*. Both versions now support more filetypes, including 24-bit colour sprites, .WAV files and *ArtWorks* files. Other features include a revised user interface, turbo loading, OLE, master pages and styles in libraries, and automatic frame snap.

Professional will also have a powerful script language, which can be extended by external modules.

Also on show will be *Rephorm*, *Repro* for more complex control over colour printing and Oak's CAD range, all cheaper under a revised pricing structure.

Oregan Software

Stand 27

Oregan has a number of new products for launch at the show. The most exciting of these being *PhotoTouch*, a complete image processing and electronic photo touch-up package. Oregan says it will work with 24-bit images, and will bring the facilities of *PhotoShop* to the Acorn platform.

Also new is the Classic Collection, a giant database of classical music containing over 200 pieces of music. New games include *Sally & Wally* and *Magnetoids*.

Quantum Software

Stand 117

Quantum will be releasing version 3 of *KeyStroke* (a demo of which appeared on last month's disc). The new version will now work with a lot more desktop programs, such as *Impression Style*.

Also being shown will be *Blinds*, a pinboard-type application with links into *Keystroke*. There's also plenty of software Quantum hopes to be able to demonstrate, but we'll have to wait until the show to see what.

Quill Marketing

Stand 31

Quill will be selling the largest range of textile-transfer papers in the world. For the first time inkjet printers can be used for t-shirt design, along with the existing kits for laser, dot-matrix and thermal wax printers, and black and white photocopiers.

Quill sells complete kits to create your own one-off t-shirt, so now you can design it, print it, iron it and wear it.

Risc Developments

Stand 11/70

New hardware on show includes the high-density, floppy disc interface for older machines, and the complete range of Ethernet cards and cables for effective networking.

On the software side, there are new versions of *Hard Disc Companion*, *Easy C* and *Desktop Thesaurus*, along with perennial favourites like *Ovation*, *Masterfile III* and *DeskEdit 3*.

Sherston Software

Stand 90

Time Detectives: The Victorians and *Bodywise* are two new educational titles from Sherston that you'll be able to see on the stand. Another new product is the collection of *Oxford Reading Tree Talking Stories*, the result of collaboration with Oxford University Press, which uses Sherston's Talking Books technology with the books from the Oxford Reading Tree.

And, of course, Sherston will be showing off *The Crystal Maze*, the basis for The Crystal Maze Challenge.

Sibelius Software

Stand 23

Release 2.0 of the music typesetting package *Sibelius 7* will be launched at the show, with many new features. *Sibelius 7* was recently nominated by Computer Shopper in the category of best software product on any platform for the1994 awards, and Sibelius Software will be showing off its capabilities by handing out music typeset on the package.

Also on show will be *Sibelius 6*, the cut-down version of the package.

Silicon Village

Product Locator

If you went to the show last year, you can't have missed the Silicon Village crew all dressed up in their villager's uniforms. Well, this year they're back again, along with the ultimate product locator to help you find what you're looking for. And, of course, you'll be able to investigate the unique electronic village that is Silicon Village, and the role playing game Avatar.

Simnett Computers

Stand 29

Simnett will be distributing its latest educational catalogue with over 2000 products, including hardware, software, supplies, networks, office and classroom equipment. Well worth a visit for all you bargain hunters who want a large choice of products to choose from.

Simtec Electronics

Stand 55

Simtec is planning a number of exciting new products, but all they would tell us was that they are all to do with adding memory to your Acorn, and one of the products will enable

you to fit more than 4Mb to older machines. There will also be novel displays of Simtec upgrades, especially where the A3000 is concerned. You'll have to turn up to find out more...

SJ Research

Stand 65

SJ Research will be showing off its extensive range of networking equipment. Nexus Junior is the entry-level disc sharer and provides hard disc sharing for four Archimedes, expandable to 10 machines. For larger cost-effective application sharing, SJ will be showing off the Nexus Disc Sharer.

New from SJ is the Nexus File Server, which is based around SJ's existing MDFS system. It has been designed specifically for use in schools.

Snap Computer Supplies

Stand 19

At the show Snap Computer Supplies will have its full range of computer consumables and accessories, including discs, disc boxes and printer ribbons.

Spacetech

Stand 37

Along with its usual range of space science and image processing applications, Spacetech will be releasing a new product at the show. *Photodesk* is a full-featured art and photo retouching application, designed to cope with images such as those from Photo CD.

All the operations are carried out at studio quality 24-bit resolution, using virtual memory techniques. Well worth a look.

Stallion Software

Stand 53

A new release from Stallion is *C-Help*, which provides help on all the C functions in the three main C libraries around today: Acorn C, *DeskLib* (PD) and Risc Developments' *Easy C*. Procedure calls and type definitions are all accessible using *StrongHlp*.

Also new from Stallion are German translations for *Almanac 3* and *StrongED 3*. *Almanac* has been enhanced with further standing-order support, and there will also be a new version of *StrongED*, with added features such as cut and paste of free rectangular blocks.

Topologika

Stand 127

There will be a number of new products on show from Topologika, including: *Talking Rhymes* (a pack of four speaking nursery rhymes/jigsaws); *Number Tiles* (11 activities designed for children to practice basic maths skills); and *Music Box* (four completely different activities covering sounds, chords, rhythm and composition).

Also available will be new desktop versions of *Screen Turtle* (turtle graphics), *Imagine* (art and maths), as well as the award-winning geography and maths pack *Navigator*.

Uniqueway

Stand 47

After the initial launch of the *Empire* movie editor last year (for use with Replay files), Uniqueway will be launching a new version, along with a new program, *EMConvert*, which takes any collection of sprite or clear files and converts them into a Replay file.

Another new program is a CD sampler which enables you to sample sound directly from audio CDs without needing a sound sampler.

There will also be special offers on CD-Rom drives and Concept Keyboards.

Vertical Twist

Stand 80

Vertical Twist will be expanding its range of musical products with the Synth Card, which will enable you to play all sorts of high quality sounds from your machine.

Also on the stand will be Vertical Twists's CD-Rom solution, which includes a double-speed, Toshiba multi-session, Photo CD-Compatible CD-Rom drive.

There is also a range of hard disc upgrades, and existing products like *Desktop Tracker* and the printer port sampler.

Wild Vision

Stand 85

TV Buddy is new, and consists of a TV tuner on a single width podule. This provides a standard video signal for use with video digitisers, and an audio signal for sound sampling.

The emphasis will be on multimedia, concentrating around the Eagle M2 card (see page 42). A new version of the Eagle M2 movie compression software will also be on show.

Wyddfa Software

Stand 115

Wyddfa's latest product is f Talking Stories, a series of interactive talking story books which use sampled speech. There are four stories about Gwen, the mischievous bear: *Gwen's Nose*, *Gwen's Tummy*, *Gwen at the Fair* and *Gwen Goes to School*. Each story comes with a colour story book as well.

Theatre Program

Start	End	Topic	Host	Subject
FRIDAY				
11.00	11.20	Education	Topologika	Music Box
11.30	12.20	The Acorn Slot	Acorn	Come and find out...
12.30	12.50	Moving Pictures	Lindis	Cablenews 2
13.00	13.20	Graphics	Oregan	Morpheus
13.30	13.50	Presentations/Prizes		
14.00	14.20	Music	Vertical Twist	Musical Interface
14.30	14.50	Games	Clares	Come and find out...
15.00	15.20	The Crystal Maze	Sherston	The Crystal Maze
15.30	15.50	Magazines	Acorn User	Questions and Answers
16.00	16.20	Words	Icon	StartWrite/ EasiWriter/ TechWriter
SATURDAY				
11.00	11.20	Education	Minerva	PrimeSolver
11.30	12.20	The Acorn Slot	Acorn	Come and find out...
12.30	12.50	Moving Pictures	Iota	Image Animator
13.00	13.20	Graphics	Computer Concepts	Colour
13.30	13.50	Presentations/Prizes		
14.00	14.20	Music	Vertical Twist	Musical Interface
14.30	14.50	Games	Clares	Come and find out...
15.00	15.20	The Crystal Maze	Sherston	The Crystal Maze
15.30	15.50	Magazines	Acorn User	The Games Editors speak
16.00	16.20	Words	TBA	Come and find out...
SUNDAY				
11.00	11.20	Education	Longman Logotron	Come and find out...
11.30	12.20	The Acorn Slot	Acorn	Come and find out...
12.30	12.50	Moving Pictures	Computer Concepts	Multimedia
13.00	13.20	Graphics	Oak	Rephorm
13.30	13.50	Presentations/Prizes		
14.00	14.20	Music	Topologika	Music Box
14.30	14.50	Games	Krisalis	Come and find out...
15.00	15.20	The Crystal Maze	Sherston	The Crystal Maze
15.30	15.50	Magazines	Acorn User	Questions and Answers
16.00	16.20	Finale		

SHOW VOUCHERS

Bring these vouchers to the show to get excellent deals on hardware and software.

Conditions

- The vouchers are only valid if presented at the *Acorn User* Spring Show in Harrogate between 22 and 24 April.
- The offers are subject to trading conditions of the companies concerned.
- The companies concerned reserve the right to refuse the voucher.
- Only one voucher per transaction.
- Photocopies will not be accepted.
- Vouchers have no monetary value.
- Not to be used in conjunction with any other offer.

Colton Software

Stand 12

Wordz for £50 inc VAT (normally £79 + VAT)

Spring Show 94

Castle Technology

Stand 97

£10 off Ergo Keyboard. Free Home Pack (worth £19.99) with computers. Free one-year on-site warranty with monitors. £10 off A3010 hard discs.

Spring Show 94

The Datafile

Stand 110

One free font weight with every three weights purchased

Spring Show 94

Digital Services

Stand 57

Buy Squirrel 2 at £25 off and receive ArmLock absolutely free

Spring Show 94

Gamesware

Stand 80

10% off any Gamesware product

Spring Show 94

Icon Technology

Stand 61

StartWrite for £39. EasiWriter for £99. TechWriter for £149

Spring Show 94

Irlam

Stand 49

ImageBank for £20 inc VAT (normally £25 + VAT). Colour Handscanner + ImageBank + Stitching software for £359 + VAT

Spring Show 94

Minerva

Stand 17

£10 off any piece of software over £30

Spring Show 94

Oregan

Stand 27

PhotoTouch for £59.95 (normally £79.95). Classic for £39.95 (normally £59.95)

Spring Show 94

Quantum Software

Stand 117

£5 off Keystroke

Spring Show 94

SJ Research

Stand 65

Visit the SJ Research stand and we will give you a voucher cheque worth £600, redeemable against purchases of SJ Research manufactured products

Spring Show 94

Spacetech

Stand 37

25% off Orrery
10% off everything else

Spring Show 94

Topologika

Stand 127

£5 off each product bought

Spring Show 94

Uniqueway

Stand 47

Cumana 400 series SCSI CD-Rom drives only £180 inc VAT while stocks last

Spring Show 94

Vertical Twist

Stand 80

£10 off hard discs and CD-Rom drives.
£10 off Desktop Tracker and Printer Port Sampler when purchased together.
£5 off Investigator III and ArcFS 2 when purchased together.
£50 of free software with every Acorn system

Spring Show 94

Wyddfa Software

Stand 115

The Spoken Word at half the full price (i.e. £11 inc VAT)

Spring Show 94

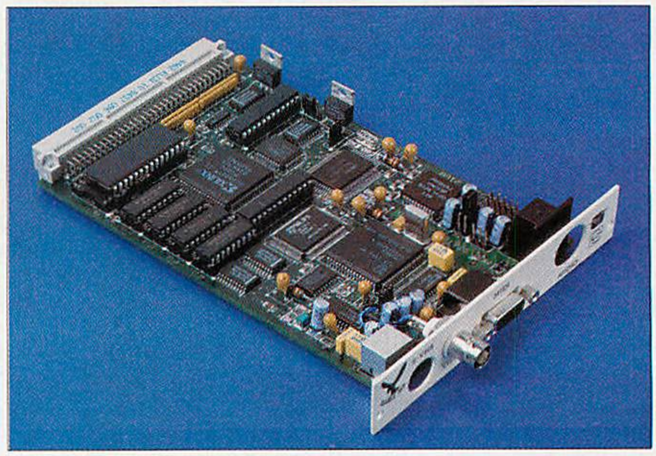
There is no doubt that the specifications of the new Eagle M2 card are impressive. Real-time Replay and Eidos video recording; full-colour and grey-scale digitising; sound sampling up to near-CD quality and a MIDI port – all this on one standard-width expansion card, and for under £300.

Because this type of card covers so many areas, we'll take a look at the sound and vision capabilities of the Eagle separately, and then evaluate the card by actually using it in a multimedia environment. The Eagle card has three audio functions: it can sample and replay sounds from an external sound source; it can send and receive MIDI data, and it can rechannel signals from the Archimedes' own sound system to an external amplifier.

The Eagle uses Computer Concepts' *AudioWorks* software (reviewed in December 1993) to make and edit samples, and a utility called *AudioCtrl* to configure sampling and playback levels and assign samples to a range of system functions.

The Eagle can 'record' samples in mono or stereo at rates of 44.1, 22.05, 11.025 or 7.350 kHz in eight or twelve bit resolution, and can write sounds to memory in 8, 12, or 16-bit linear formats or in the 8-bit logarithmic formats used by Acorn, NeXT and Sun machines.

The software can also import samples from numerous file formats including Replay, DataVox, Desktop Tracker, Symphony, Amiga (IFF) and Microsoft Wave (.WAV). Features of *AudioWorks* include cut and paste editing, looping, pitch and amplitude envelopes, digital filtering, echoes, reverse play and so on. According to the manual, 'outputting sound samples through the Eagle requires an Arm3 processor' and Arm2 is only fast enough to use the internal speaker.



Inside an Eagle M2 Card



All for one and one for all

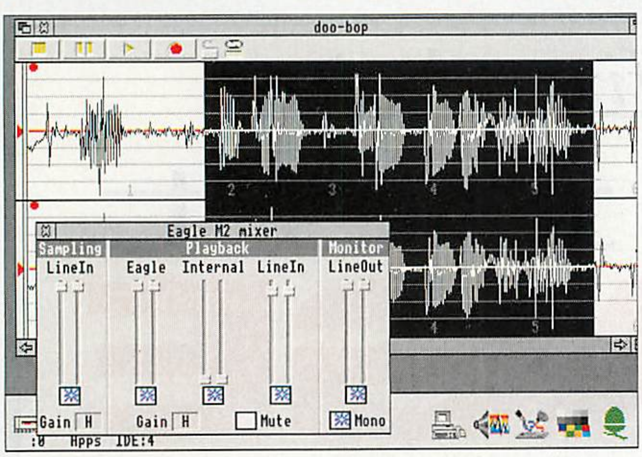
The Eagle M2 multimedia card is packed with features from video to sound to music. James Richards, Pete Worrall and Richard Garrett investigate the impact of Wild Vision's latest creation

This is not entirely true. If the Arm2 is in a fairly low resolution screen mode, the Eagle is set to monophonic playback and no other time-consuming processes are running, samples will play back externally. Ask the machine to do anything interesting however, like a real-time edit in *AudioWorks*, and it dissolves into a fit of hiccups.

As a test of sound quality, I took samples from a number of commercial CDs and, using a small pair of studio monitor speakers, compared them to the originals. To my ears, the results seemed pretty good, particularly on voice and solo instruments, although drum breaks seemed to lack some of the 'punch' of the originals.

At first, the samples contained a certain amount of extraneous noise but most of this could be eliminated by fiddling with input and output levels in *AudioCtrl's* mixer utility.

The Eagle's stereo input and output lines, for connecting your Arc to a hi-fi amplifier (not headphones), are mounted in a single 5-pin DIN socket. This socket is used for sample replay and for external playback of Archimedes sound on A300/400s and A5000s.



Sample and playback levels can be altered using the software mixer in AudioCtrl

MIDI

For reasons of space, the Eagle MIDI port takes the somewhat unusual form of a 15-pin D-socket which connects to three MIDI cables (in, out and through) via a provided adaptor.

The firmware is identical to that on Acorn MIDI cards and worked well with all the third party software I tried, except Clares' *Rhapsody 3*. This was due to a conflict of version numbers between Acorn and Eagle cards and should be fixed in the release version.

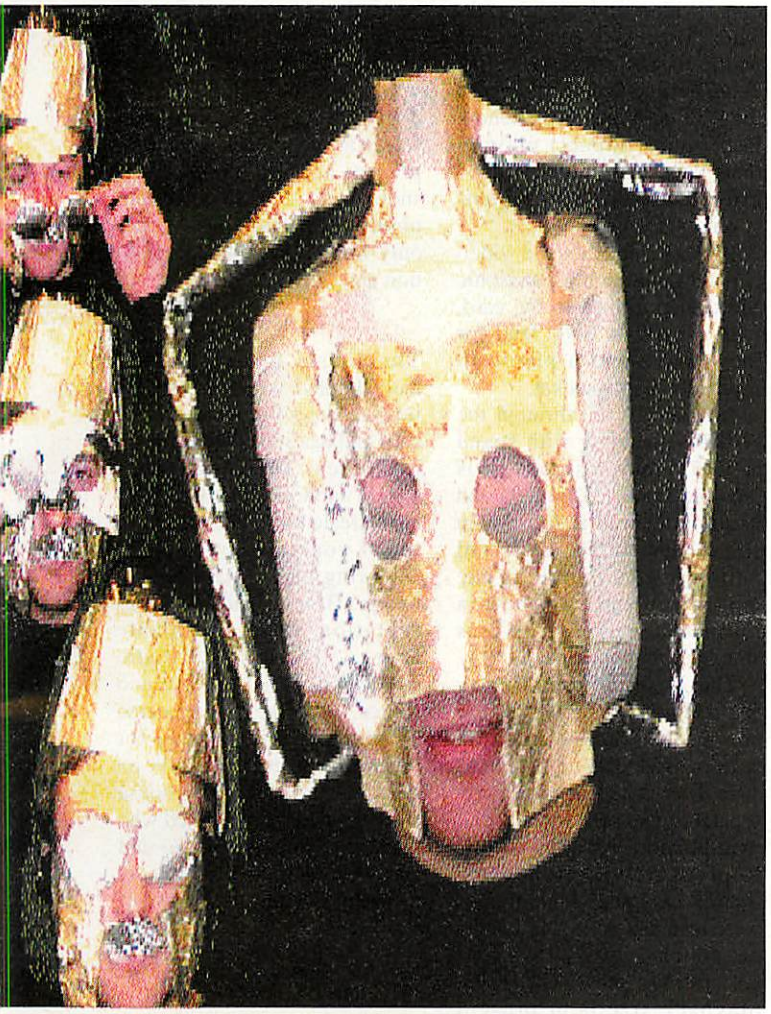
MIDI is something of an 'odd man out' on this card. It's useful if you don't have a MIDI card already, or if you're short of space on the old backplane, but none of the software that comes with the package has any MIDI functions.

It's understandable that you can't synchronise MIDI to pictures (this capability is presumably not part of the Replay standard) but it would be nice if, for example, *AudioWorks* could be triggered by external MIDI equipment. Perhaps such things will appear in time.

Picture cards

Moving pictures are still something of a holy grail in the computer world. Therefore there is no doubt that the abilities of this card and its software are going to make quite a splash in the Acorn multimedia world.

But don't be fooled into thinking that all Acorn owners



Picture series of images for Cyberman

can record the omnibus edition of Eastenders onto their floppy discs. Video grabbing is still reserved for those with powerful Arm3 machines and large hard discs.

In fact, for most Acorn users the impact of this card's video- grabbing abilities will only show in the increased amount of moving pictures on CD-Rom titles.

After installation of the card there is a hefty collection of software applications to install. *TakeTwo* is the central application used to grab images, both still and moving.

The Acorn Replay software suite comes on a separate disc and includes *RCompress* for creating Replay movies, together with various utilities for playing them back. Finally there are the Eidos Escape compression routines which are integrated into the *TakeTwo* application and offer real-time video compression.

The card has two video inputs, a standard BNC for a VHS connection, and an S-Video connector for higher quality tape formats such as Hi-8 or Hiband. The two main video formats, PAL and NTSC, are supported but not SECAM – audio input is through the same 5-pin DIN connector that *AudioWorks* uses to suck in its sounds.

Grabbing images

Once connected to the video source, the *TakeTwo* application displays the incoming video in a desktop window. Using the Picture Control dialogue box, the source can be selected (SVHS or Composite, PAL or NTSC) and the difference in timing between video tape and live sources, such as a camera, are catered for.

Actually grabbing images is controlled from the Grab Choices dialogue box. This box caters for both still grabs and movie recording, and it's good to see it all in one place.

Still sprites from the video source can be grabbed in various formats. Most of us are used to 8 bits-per-pixel (bpp) mode, and this creates a 256-colour sprite of very good quality.

The generation of 16bpp (32,000 colour) and 24bpp (16.7 million colour) sprites is also catered for and 24-bit TIFF and Clear files can be saved directly from the application.

Saving the sprites is done in rather an inside out way: you have to 'save' the sprite and then make the grab. This soon makes sense: as you wind the tape up and down and click on the video window's record button to save the picture in the desktop viewer, each sprite gets a filename based on the original, with an incrementing number after it.

Movies

Grabbing movies is just as simple. Changing the Save Format to Replay gives a choice of creating a 12.5 frames per second Escape movie or recording raw video data straight to disc at 12.5 or 25 frames per second.

Using the latter, the file created can be processed by the Acorn software to make a compressed movie. The quality of the recorded sound that comes in with the image can be varied, from very low quality (7kHz) to CD quality (44kHz).

All in all, grabbing movies is simple, if you've got the right hardware. Basically, movie compression works and allows the creation of files that an increasing majority of Acorn applications can load and play as moving pictures.

Picture quality is not a strong point though, and it is up to the manufacturers to provide faster hardware so that this can improve.

In the past, multimedia was very much an armchair activity; for the most part we switched on, looked, listened and passively learnt something.

The welcome arrival of the Eagle M2 expansion card takes active multimedia creation, using sound and pictures, into the home or school in a completely integrated way. With the emphasis on the practical I played my hundred-or-so Canon Ion Video Still Discs through the digitiser.

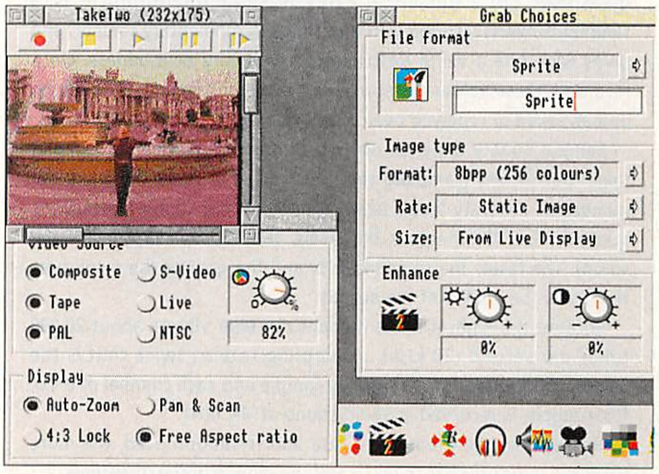
The *TakeTwo* software enables images to be viewed live on screen and captured. The luxury of setting the contrast, size and colour controls, and saving fifty pictures onto the hard disc in 30 minutes, allows you to concentrate on the images, i.e. the task at hand.

Practical uses

The sensible 'friendly' user interface makes it an attractive proposition for use in schools, where large numbers of images require digitising quickly, such as for school newspapers.

The quality of the saved images is absolutely stunning, setting a new, higher standard for resource material at home or in the classroom. It is important to note that the A5000 on which these shots were taken does not have a colour card fitted.

The ultimate test for any digitiser is in the accurate recording of detail, so first I recorded, on video, a complex area (30x20 cms) from one of my paintings taken outdoors in



The TakeTwo video application with its three windows (still frame is from the All New Alexi Sayle Show, currently on BBC 2)



Detail from painting (War by Pete Worrall)

natural light. The digitised results not only captured the true colours but the saved image was crystal clear in every detail. This meant that I could now commit my work to disc and even create a visual database of quality images exploring artists' techniques and methods.

With such consistently clear images, key design features in technology projects can be recorded and used to promote the product.

Animation is also extremely easy, as one of my students at the University of Central England found out after spending an afternoon constructing 'Cyber-Headgear' using card and silver paper.

With time pressing we set the size of the *TakeTwo* window at a quarter size and then rapidly grabbed sixteen images in five minutes. These images were then loaded into Iota's *Image Animator* for further development and saved in Film format.

The next logical step will be to use the MIDI capabilities of the M2 card with *AudioWorks* to create a Spacey soundtrack, probably using the Metallic Sound on my Casio keyboard. Activities such as this demonstrate the great creative potential of the M2.

Natural vision and sound

Finally, it was time to try out a video and sound grab. This time I loaded the *AudioWorks* software with *TakeTwo* and decided to record the Willingsworth High School Rap Band (Impact) playing their latest rendition, which I had recently saved for posterity onto video tape.

In the screenshot the video is playing through a Panasonic M7 camera linked to the card, with a BNC to BNC lead for the visuals and a phono to 5-pin DIN audio socket.

A film will run through the *TakeTwo* window with sound at 12.5 frames a second (it is possible to run 25 frames) and it can be viewed at full screen size if required. The red record button begins recording the movie and the stop button finishes the recording: it's as simple as that.

The 30-second Rap Replay file accounted for 3Mb of disc space, and Replay software was provided for playback. The Rap soundtrack was separated from the visuals and manipulated by dragging the Replay file straight into *AudioWorks*. Individual frames were also saved for the band's promotional material, such as posters and t-shirts. The screen playback size is at present fixed at 160 by 128 pixels, but future developments may permit other image sizes.

The Replay clips created can be used in *Magpie* and *Genesis* for presentations. It would be possible to create promotional music videos, show art and design techniques, produce safety at work demonstrations, present keep fit exercises or show dance and sporting techniques. The practical uses are only limited by your imagination and time.

Conclusions

The Eagle has well-and-truly landed with this superb interactive sound and vision card and has set a new standard for others to chase. Wild Vision and Computer Concepts have created the first integrated 'do it yourself' multimedia authoring package for sound, image, film capture and presentation at an affordable price. The ultimate studio setup could include a video source, MIDI keyboard, stereo system and microphone for optimum effects. This is an essential creative powerhouse for the artistically inclined who want to manipulate video and audio together, and it looks set to be one of the highlights of this year.

Product details

Product: Eagle M2
Supplier: Wild Vision
Tel: 091-519 1455
Price: £299 + VAT

Sampling jargon

Although audio sampling has been familiar to music technology users for some time, it has only recently entered mainstream computing so, for the uninitiated, here's a brief explanation.

A sampler is the audio-equivalent of an optical scanner. Just as a scanner turns a black-and-white image into a stream of dots and gives each dot a numerical value to show how bright it is, a sampler converts a sound into thousands of momentary samples and gives each one a value describing its intensity or loudness. Once recorded, these values are stored in the memory where they can be edited, saved or replayed over a loudspeaker.

Sample quality depends on two things: the number of samples taken per second (sampling rate), expressed in Hertz (Hz); and the number of intensity levels used to describe the sound (resolution), quoted in bits (8-bit equals 256 levels, 16-bit gives 65536 levels and so on). The faster the sampling rate and the greater the resolution, the better the quality of the output.

Because the highest notes humans can hear vibrate about 20,000 times per second (20 kHz), a sampling rate of twice that is the maximum required for a hi-fidelity sample and each channel of a CD, for example, is recorded in 16-bit sound at 44.1kHz.

Unfortunately, the greater the rate and resolution used, the more work the computer has to do to and the more storage it requires.

Video compression formats

Video pictures can be captured in two ways: Acorn Replay or Escape. Both can be played with the Acorn Replay Movie player (*ARPlayer*).

To make a Replay file the Acorn way, you need a lot of storage space and a lot of time. Raw video data is piped onto the hard disc in one or two second chunks from the video source, in RGB, greyscale or YYUV format.

After this real-time process is complete, the raw video file is divided up into single frames (or exploded) by a Replay utility. The Replay compressor then compresses each frame in turn and joins all of the frames back together to make the final Replay movie file.

Each frame takes about two seconds to compress, so you can see why you need the time. Think about it a little and you'll realise why you need the space. Final quality is very good and compression rates are high.

The Escape routines can only record at 12.5 frames per second. The final quality is not as good as the Acorn method, but there's such a difference in the amount of time and hassle spent. Also, Eidos are working on the quality of their compression, and improvements are on the way. Frames are read in from the video source and compressed immediately in the memory, then every two seconds the whole chunk is sent to the hard disc. That's it: no hassle, no worries. The finished Replay file is ready for use when you stop the video.

Heavyweight Databases

James Harrison goes 12 rounds with three beefy contenders: Iota's DataPower, Digital Services' Squirrel 2 and Longman Logotron's S-Base 2

In their first incarnations, *S-Base*, *Squirrel* and *DataPower* received very favourable reviews in the Acorn press, with *Squirrel* and *DataPower* being praised for their ease of use, flexibility and reporting facilities, and *S-Base* for its sheer magnitude and power.

Over the past few months new versions of all three applications have been released. *Squirrel 2*, with 39 separate enhancements, and *S-Base 2*, sporting a massive 400 improvements, have undergone radical surgery, thus justifying their sparkling new version numbers.

DataPower, having received more of a manicure than a triple bypass, currently has a version number of 1.22. But with Longman Logotron claiming in its advertising that *S-Base 2's* new features make 'the most powerful Risc OS database also the easiest to use', Digital Services declaring that *Squirrel* is 'the finest database available for the Risc OS platform', and a reviewer crowning *DataPower* 'the most powerful of the non-relational databases' for the Archimedes, along with very competitive prices, choosing between the three is extremely difficult.

What's new?

In his review of *S-Base* in the March 1993 issue of *Acorn User*, Graham Bell commented that 'writing programs in *S-Base* is an essential step. There is no easy setup as simple as *Squirrel* or *DataPower*, no "draw your database". It's not for the fainthearted.'

This summed up the fundamental difference between the first version of *S-Base* and the initial releases of *Squirrel* and *DataPower*. Whereas the latter two were easy to use, *S-Base* required an extensive knowledge of Risc OS programming, and a lot of dedication.

S-Base is a programmable-relational database management system (DBMS) for developing personal and, with the Developer version, commercial database applications.

It has its own programming language, S, with which the user can create almost any database application, from an address book to an airline scheduling system for Heathrow airport.

With over 450 pages of documentation and a steep learning curve, *S-Base 2* is still not for the fainthearted. It is however substantially easier to use than the original version.

Introducing SAM

The most important new feature in *S-Base 2*, and the one that takes it from being primarily a professional programmer's tool to an application that can be used by almost anyone, is SAM, the S-Base Application Manager.

The heart of *S-Base 1* was the S language. Developing an application, no matter how simple, involved writing mini-programs to display records and deal with desktop events such as mouse clicks.

SAM, on the other hand, allows you to create complete applications without writing a single line of S. You supply the data and SAM writes the application.

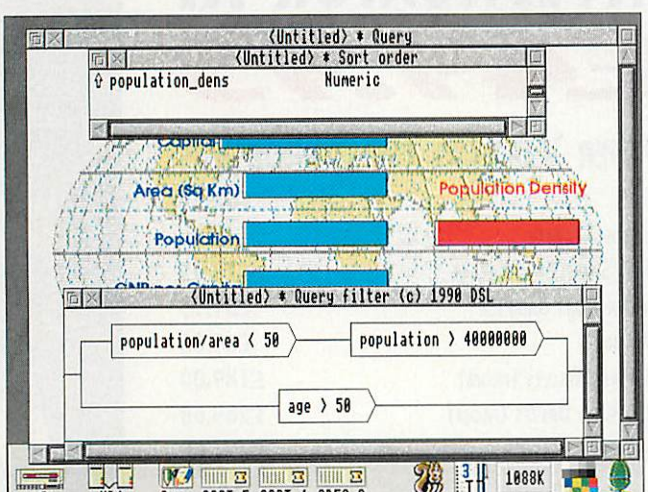
This works very well if you already have a database in CSV, *Squirrel* or *dBase III* format, although the *Squirrel* and *dBase III* importing facilities are only available in the Developer version.

You simply drag the file into SAM's file list window and SAM automatically imports the data, then creates default format cards in which you can browse and edit the database, perform searches and print reports.

The entire process can take less than a minute, and is very well documented in *S-Base 2's* excellent 60-page Quickstart Guide.

Creating a totally new database with *S-Base 2* is a slightly different story. Although SAM automates some of the process, it is still necessary to define file and field types for records, using complicated dialogue boxes.

Once again, the process is covered in reasonable detail in the Quickstart Guide. For a totally new user however, creating a simple address book database from scratch with *S-Base 2* will take a few hours, as opposed to several minutes with *Squirrel* or *DataPower*.



Creating a Population Density report with Squirrel, using a filter query to extract all countries required

The graphical approach

DataPower and *Squirrel* take a very graphical approach to card design. The field type is chosen by clicking on one of a variety of 'field' icons in a vertical toolbar, and the field is then drawn to the correct size on the record card.

Field creation is slightly simpler with *DataPower* than *Squirrel* however. For example, *Squirrel* provides three different text field types: a fixed-length string, a variable-length string and a multiple-line text field, with searching

and sorting not permitted on the latter.

DataPower provides one text field type which can be any size – either a single line or multiple lines – and can contain an unlimited quantity of text. Searching can be performed on the entire text field, but sorting is only permitted on the first line of a field containing multiple lines.

DataPower's simplification of field creation also becomes apparent when creating graphic fields. While *Squirrel* can still only display *Draw* and sprite files, with a different field type necessary for each format, *DataPower's* single graphic field now caters for *Draw*, sprite and *ArtWorks* files, and can also contain and play Ace and Iota films.

S-Base caters automatically for *Draw* and sprite files, and can, with a little programming, display and play Replay films.

All three applications allow the use of text and graphics to enhance the layout of record cards and reports. With *S-Base* this is a fairly non-trivial task, requiring the use of *S-Base's* complex but powerful template editor.

DataPower provides two extra icons for creating 'free text' and background frames. The free text option allows text to be typed onto the background of the record card, while graphic and text files can be dragged into any number of background frames..

With *Squirrel* it's not even necessary to create background frames: you just drop the text or graphic file onto the background and then reposition it by dragging it around.

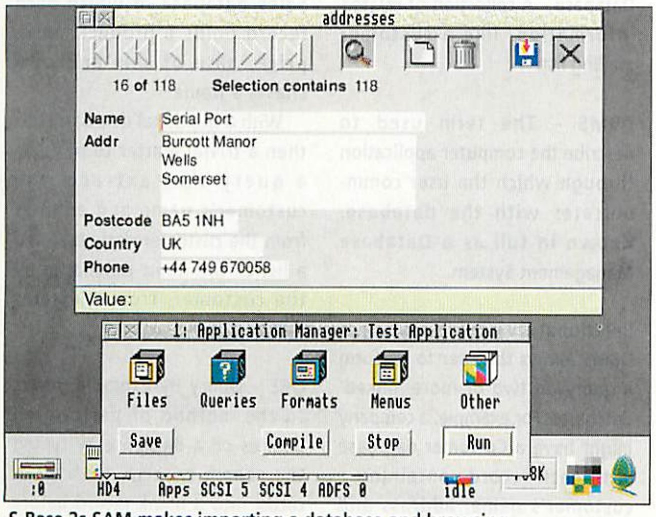
The feature of *DataPower* that gives it its billing of a 'DTP-style database management system' is the extensive control it gives the user over the appearance of the record card.

Every field in the record card acts like an *Impression*-type frame, and as such, can have its line and fill colour altered, and a variety of borders, shadows and slabs added to it. This is all done via dialogue boxes that are almost identical to their *Impression* counterparts, and thus very easy to use.

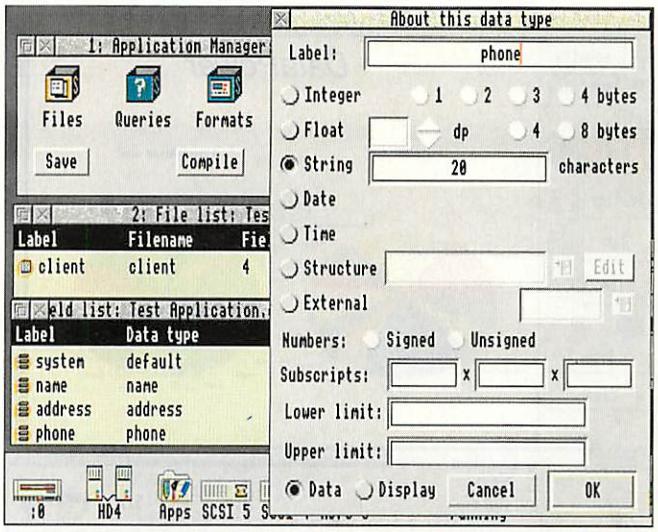
But whereas *Squirrel* and *DataPower* stop here as far as altering the appearance of the record card is concerned, with *S-Base* you can totally redesign the front end of the database application.

Squirrel and *DataPower* provide toolbars for browsing through the database, but the toolbars are fixed and can't be repositioned or edited in any way. With *S-Base*, if you don't like a default layout, you can open the format list window and totally recreate it.

Existing fields can be edited and new ones added; icons, such as those for browsing, searching, printing and saving, can be repositioned and modified to use different sprites; and new icons can be added to perform any conceivable function, for example a batch operation or to generate a report.



S-Base 2s SAM makes importing a database and browsing through it simplicity itself



Base4 : Setting up a new database with S-Base 2 is still fairly complicated

Information is power

S-Base sports a very impressive natural language query by example (QBE) system for searching a database. If, for whatever reason, you wanted to extract from a 'countries of the world' database the names of all countries beginning and ending with 'A', you would simply type into *S-Base's* query window the search string 'begins with A and ends with A'.

The equivalent search string in *DataPower* and *Squirrel* is 'A*A' – shorter, but much more obscure. A search for all records containing today's date simply requires the string 'today', as opposed to one like '= 1/1/90' or '= 1st Jan 1990'.

S-Base 2's natural language system doesn't preclude the use of standard operators such as '<' and '>', so you could, if you really wanted to, enter a search string such as '&& <'r'}', which translated means 'find all words beginning with p or q'!

As with *Squirrel* and *S-Base*, *DataPower* also uses a very user friendly QBE system for implementing searches. But of the three applications, its searching facilities are the most limited, catering only for the wildcards ? and *, representing single and multiple characters respectively, and the use of the operators <, >, =, AND, OR and NULL.

However, *DataPower* does provide a unique searching facility not available with the other two. Clicking on the Any button in the search toolbox allows a search string to be matched with any other fields of the same type in the record.

Unfortunately, *DataPower* doesn't allow you to combine AND and OR searches across more than one field in a single search, although this is offset to a large extent by its ability to refine searches.

Squirrel excels when it comes to its searching capabilities. It provides two types of queries; a simple QBE query, and a complex 'filter' query. For both types, a subset of *S-Base's* 'natural language' is used, with the only English words being 'like', 'matches', 'between', 'and', 'is null' and 'not'.

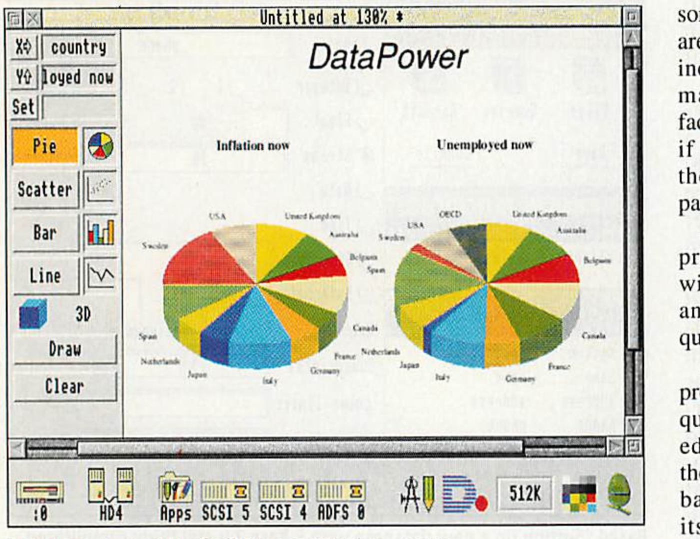
In a QBE query the search criteria are typed directly into a blank record. A filter query involves constructing a filter diagram of 'include' and 'exclude' filters, where each filter can contain a query, and the filters can either be parallel, signifying an OR operation, or in sequence, denoting an AND operation.

Filters can also be inverted – a filter containing the query 'age between 20 and 40' would become 'not age between 20 and 40' when inverted.

Auto action queries

Two of *Squirrel's* most powerful new features are batch operations and auto action queries. Batch operations allow you to update or delete a subset of records selected using a standard query.

A good example of this is a company that has done a mail-



DataPower's graphing facilities are stunning – more than 44 different graphs can be created

shot to its customers in Liverpool and Birmingham and wants to update its database to reflect this. Each client record in the database contains a 'Mailshot sent' yes/no field and a 'Date posted' field.

To perform the update, a query can be defined to search for all clients in each city, and the 'Mailshot sent' and 'Date posted' fields dragged into the Batch update window and set to 'yes', with the correct date. When the batch update is then run, any record matching the query will be updated automatically.

Auto action queries allow queries to be executed, reports previewed and printed, records updated or deleted, graphs created and data exported, by simply double-clicking on a previously saved query file.

Squirrel thus enables you to create a set of icons which can be run from a menu system or filer window, and which will automatically run *Squirrel*, load the correct database, extract the required information, and perform whatever action you've specified on it.

Graphing

As far as graphing is concerned, *DataPower* leaves *Squirrel* and *S-Base* standing in the dark ages. *S-Base* doesn't cater for graphs at all, although a competent programmer could probably write a graphing module in S.

Squirrel's new graphing facilities are adequate but very inflexible; only four 2D graph types are provided, and although eight functions can be applied to the data being plotted, the graphs themselves are not customisable in any way. It's a case of printing them as is, or saving them as *Draw* files for editing.

DataPower's graphing module, which can either be accessed via a menu option or run as a separate application if memory is tight, generates graphs that can only be described as stunning.

The four basic graph types – pie, scatter, bar and line – can be displayed in a total of 44 formats; the x and y scaling can be adjusted; the various graph objects can be repositioned and resized; borders and shadows can be added; and text format and style is fully editable.

Conclusion

DataPower is a highly competent non-relational database. It is very easy to use, has excellent reporting and graphing facilities, and I've got nothing but praise for the manual and general presentation.

I wouldn't hesitate to recommend it as the ideal database for the majority of users were it not for one thing – it is the most expensive of the three packages.

Its main competition comes from Squirrel, and while *DataPower's* user-interface is better, its menus and dialogue boxes are easier to understand, and its graphing facilities are far superior to *Squirrel's*, *DataPower* is seriously lacking in certain areas.

It is non-relational, its sorting and searching facilities are weaker than *Squirrel's*, and indexing is non-existent. For many users however, these facilities are not important, and if this is the case with you, then *DataPower* may be the package to go for.

Squirrel 2 on the other hand provides amazing flexibility with its relational capabilities and its filter and auto action queries.

Although *Squirrel* is non-programmable, the auto action queries alone give it a strong edge over *S-Base 2*, making the creation of powerful database applications simplicity itself. Its graphing facilities are a little disappointing, but other than that, *Squirrel 2* has remarkably few limitations.

The choice between *Squirrel 2* and *DataPower* is a very difficult one, and is largely dependent on your own requirements. If you want a database application that will provide you with attractive graphs and reports, the answer is *DataPower*. If you're looking for flexibility and power combined with ease of use, you can't go wrong with *Squirrel 2*.

S-Base 2 is without doubt the most powerful database management system available for the Archimedes. There is almost no limit to what an adventurous programmer can do with S, while SAM will allow a user with no programming knowledge whatsoever to create, fairly easily, a personalised database application.

However, *S-Base 2* is not the ideal database application for everybody. It's certainly not for the user who wants to slap together a database in 15 minutes, nor for the user who needs integrated graphing facilities.

And it's not, as Longman Logotron claim, the 'easiest to use'. But if you are prepared to invest a reasonable amount of time and conquer the steep learning curve, you will never touch another database application again.

Product details

Product: S-Base 2
Supplier: Longman Logotron
Tel: (0223) 425558
Fax: (0223) 425349
Prices: S-Base 2 Personal £129 + VAT
S-Base 2 Developer £249 + VAT
S-Base 2 Developer Plus £379 + VAT

Product: Squirrel 2
Supplier: Digital Services
Tel: (0705) 210600
Price: £139 + VAT

Product: DataPower 1.22
Supplier: Iota Software
Tel: (0223) 566789
Fax: (0223) 566788
Price: £149 + VAT

Glossary

Database – A collection of related information, like a customer mailing list.

DBMS – The term used to describe the computer application through which the user communicates with the database. Known in full as a Database Management System.

Relational DBMS – A relational DBMS allows the user to perform a query on two or more 'linked' databases. For example, a company might have a Customer database with each record containing a customer's name, address and telephone number, and a Sales database in which each record holds a product name, price, date of sale and purchaser's name.

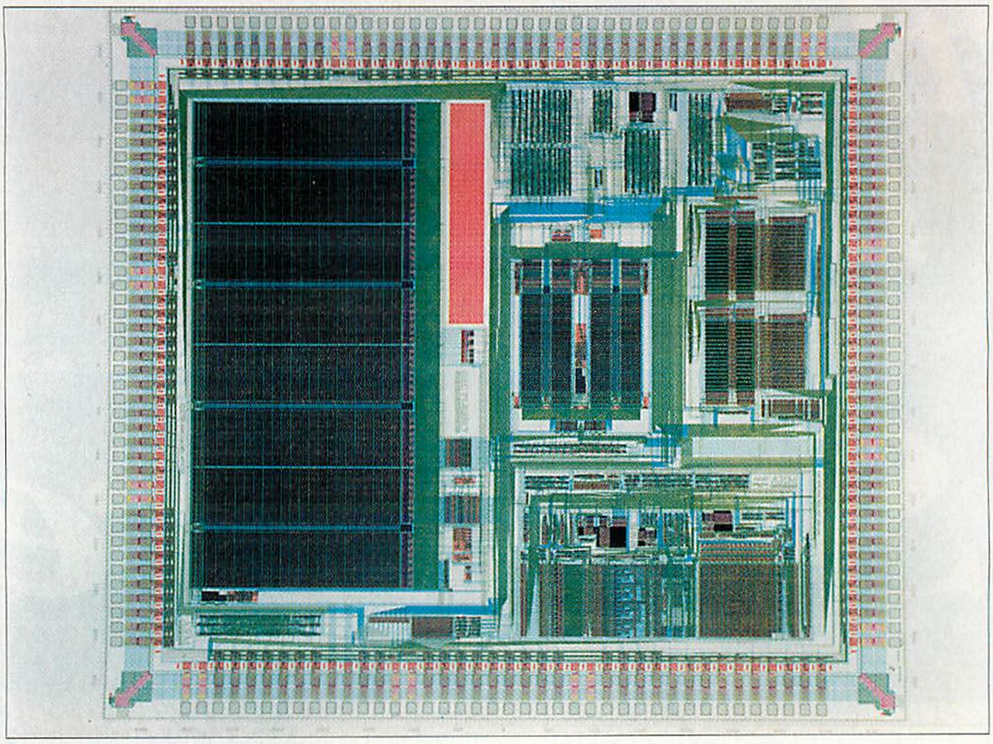
With a relational database, it is then a trivial matter to perform a query that extracts the customer's name and address from the customer database, and a list of the items purchased by the customer, from the sales database.

QBE – Query by Example, refers to the method of performing queries on a database by typing the search criteria, with wildcards, into a blank record before executing the query.

To say that Acorn is ignored in the wider PC market may be considered an emphatic statement. To say that there is some sort of conspiracy at work may be paranoia, but to Acorn enthusiasts (or merely those users that are knowledgeable on the subject) it is disconcerting that they never, or at best very rarely, see their computers discussed, reviewed, and mentioned in the wider world.

Unfortunately, very little of this can be changed quickly by Acorn, and it is not really to do with the size of their marketing budget. A long process of influencing public and professional opinions has to be the way forward.

This article examines how and, hopefully, explains why this is the case. There are several significant controlling factors which we will examine in a moment, but let's begin with a typical example of an end-user buying decision.



The Arm 700: Acorn's future hope in the chip stakes

A Conspiracy of Silence?

Acorn's products are always hailed as technologically excellent, but outside of the domestic education market Acorn's products are overshadowed by the giants. Philip Ensor examines why

Information Technology in general is affected by the FUD factor (Fear – Uncertainty – Doubt) engendered by computers in the eyes of the public. The popular press runs stories which talk about Giant Memories, Electronic Brains and Computer Viruses (see your tabloid newspaper next time Friday the Thirteenth occurs!).

Therefore, if someone is familiar with any type of computer, there is an inertia that militates against change. People tend to feel safe with the devil they know.

This leads to the overdeveloped herd instinct that prevails within the computer industry. The old industry adage that used to apply to IBM in the days when mainframes and minis reigned supreme can now be used for Microsoft: 'Nobody was ever fired for buying Windows'.

IDKAYSYDE

So, when Joe Public wants to buy a computer to run some relatively straightforward home applications such as word processors or spreadsheets, he or she is likely to ask their 'friend that knows about computers' who will, almost invariably, be using a PC at work and will advise accordingly.

Our punter will then trot down to their friendly local electrical retailers who are unlikely to be selling Acorn machines or, even if they do, will know very little about them.

Consequently, they will come away clutching a 286 or 386 for the same sort of price that would have bought them an Acorn computer with the power of 32-bit Risc processing, built-in graphical and other applications and without the built-in obsolescence that exists in the PC world.

To give this phenomenon a name, we might call it the 'I Don't Know About You, So You Don't Exist' (IDKAYSYDE) syndrome.

This process can sometimes work in Acorn's favour, particularly if the 'friend that knows about computers' is an Acorn user, and Joe is sent to an Acorn dealer rather than their friendly local electrical retailer.

But given the spread of PCs and Macs against Arcs, this word-of-mouth effect favours the platforms with the big market share.

A macro version of the IDKAYSYDE syndrome lives in the commercial world. The business user might feel that there is no choice other than PCs, especially if he or she wants to run certain types of applications – such as work group computing or comprehensive accounting packages – but for key niches including DTP or multi-tasking applications Acorn offers some convincing (and ever expanding) alternatives. Business users

don't know this because they cannot inform themselves of what is on offer and what it can do. This is especially so if they ask the Technical Expert from the Computer Department, who will be an expert in PCs or Macs.

Controlling factors

Let's have a look at the controlling factors in detail. The first thing to remember is that the Marketeer can be mightier than the Techie, providing a sort of critical mass is reached. The critical mass is all about managing user perceptions/ awareness.

A number of factors influence this, including the power to lead the market, size of marketing budget, perceived technical benefits or superiority, perceived or actual ease of use and brand awareness.

But the right combination of these needs to be found. For how not to do it, think about the battle between VHS and the superior Betamax video format and consider the eventual victor.

For an example closer to home, IBM used at least the first three factors I've suggested and did it right (from their point of view) when it defined the PC market and marginalised all other forms of microcomputer, superior and otherwise, with the introduction of the PC (although to IBM's eternal chagrin, it did not retain ownership of the technology).

Particularly relevant here was IBM's ability to lead the market. An example of where IBM did it wrong, though, was when it introduced OS/2, which has been almost completely marginalised by Microsoft Windows. Microsoft now has the power to lead the market in software, and is picking off market segment after market segment.

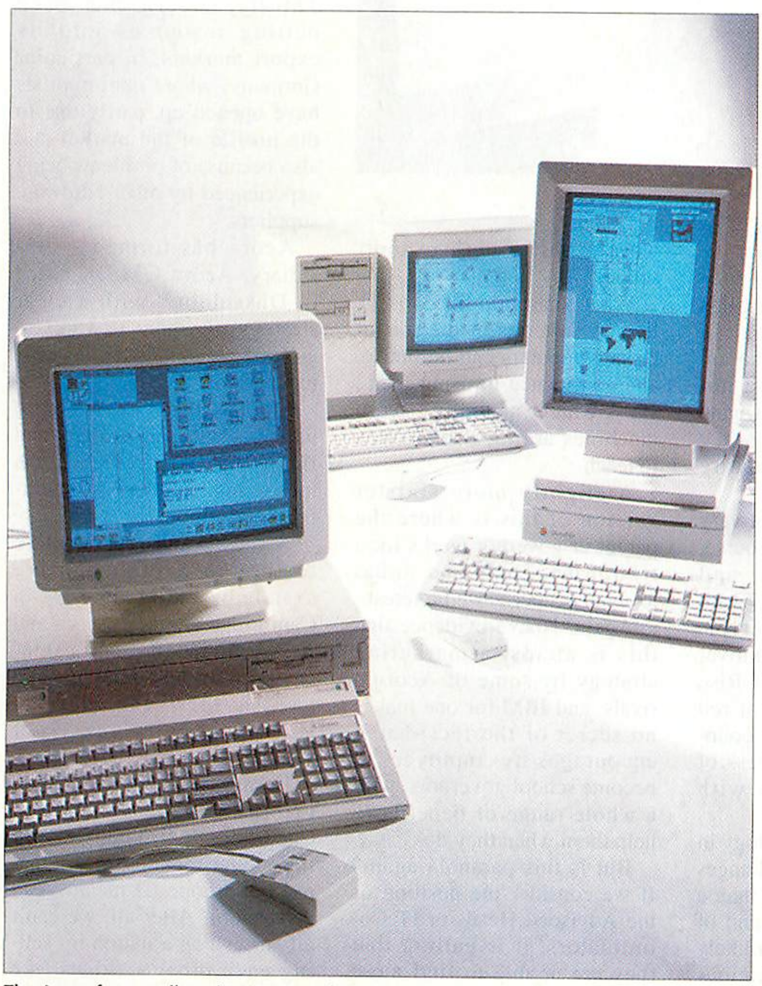
With the recent introduction of *Creative Writer* and *Fine Artist*, it looks like MS has turned its attention to the education and home market segments.

Therefore, it (and the PC hardware suppliers) may be posing a bigger risk than ever to the Acorn world, bearing in mind the fact that a key differentiator for Acorn has always been the quality of educational software available.

Niche markets

To see how it can be done in niche markets, Apple did it right with the Mac in establishing it as the power graphics machine, and thus the de facto standard in the design and publishing world; and wrong with the UK Education market, where Apple has failed to establish a critical mass in terms of market share, despite the 'perceived or actual ease of use' factor working in its favour.

Brand awareness is a major factor that affects Acorn. Without the brand awareness chicken-and-egg, the customer will not ask for the product, the retailer will not stock the product and the reviewer won't bother to review it because it won't sell the publication. Let's examine some practical ways in which this affects Acorn.



The Acorn fares well against Macs and PCs

Computer magazines that have 'PC' or 'Windows' in their titles probably perceive the interest as being too small, and might also say, arguably, that it is not their job to review anything other than Microsoft/ Intel and compatible machines – but in that case, why include Apple and not Acorn?

The education press seems to discuss Acorn hardware and software irregularly and insufficiently, thus over-emphasising the importance of other platforms against Acorn, given the range of educational software available and the size of their relative market shares. This may be influenced by size of advertising budgets and by familiarity with Apple in publishing circles.

The sight of an Acorn computer in the average high street is as rare as seeing the Abominable Snowman doing his shopping there (with some notable exceptions, it must be said). And just try going into a high street computer games store and asking for an Acorn format game. The games market is completely dominated by the Sega and Nintendo duopoly.

Tesco has recently published a newsletter proclaiming the success of the 1993 Computers in Schools promotion. 11,000 schools (that's more than one in four of the nations schools) received over 30,000 items, including 6,929 Acorn computers.

Bear in mind that this was as a result of over 40 million vouchers collected all over the country, at £25 worth of shopping each. A quick bash on the calculator reveals that this was worth £1 billion to Tesco's revenues. However, throughout the four pages of the newsletter, Tesco chose not to mention Acorn by name. Why so coy?

At the BETT show recently, I watched a couple of theatre-style presentations on the Apple stand. The presenters, wearing their show sweatshirts emblazoned with the legend 'Dedication to Education', used some impressive slides and quotes to identify to their audience the superiority of this Motorola chip against that Intel chip, or the relative merits of this Apple Mac versus that 486 or Pentium PC.

Given the fact that BETT is an education show, and that Acorn, by any yardstick, is a key competitor in this market, I found it intriguing that Apple chose not to mention them at all.

But it is not really surprising, especially if they subscribe to the old Hollywood adage that says 'any publicity is good publicity'. By the very fact that Acorn is not mentioned at all, it is probably being done more harm than if there was any mention, however disparaging. The implied message is that Acorn is no sort of competitor at all.

Education market

The education market is a segment where Acorn began by doing it right, established itself as a market leader and has continued to do it right, much to



The Acorn Publishing system: a success in a niche market

the surprise of some of the big boys who have been trying to muscle in on education for the last few years.

The fact that Acorn uses unique and proprietary technologies (which it owns) has meant that it has been able to keep apace of the changes in this market and to stay aloof, in large part, from the price wars waging in the PC world, with the consequent effect on manufacturers margins.

But this battle is never won, and the far reaching changes occurring today in the education market could result in a number of potential risks.

A key concern is that with the continuing demise of the influence that Local Education Authorities have on schools, and conversely, the rise of the power of parents and governors under local management of schools, the IDKAYSYDE syndrome might start to have an impact on Acorn's business in this market segment too.

I have anecdotal evidence from teaching friends that this is already happening in schools, with parents who are familiar with PCs (and not familiar with Acorn) challenging IT co-ordinators on why they continue to buy 'non-industry standard machines'.

There are a number of very powerful responses of course, including the range and breadth of education software available, the price/performance ratio, and the intuitiveness and ease of use of Risc OS. The other important red herring that often needs countering here is the business of producing children with employer-ready skills.

But given that technology in the computer industry changes rapidly, any child more than a year or two before the end of their school career is unlikely to find the same applications in their workplace as they were familiar with in their school.

What that child needs is IT literacy in terms of the sort of tasks computers can be put to, and confidence in using them; skills which, naturally, Acorn machines are ideal platforms to teach.

A slightly more sinister version of this is where the parent or governor works for a rival manufacturer and so has an even deeper vested interest.

Again, I have evidence that this is almost a marketing strategy by some of Acorn's rivals, and IBM for one makes no secret of the fact that it encourages its employees to become school governors, with a whole range of benefits to help them when they do.

But is this paranoia again? If we consider the position of the Advisors, Heads or IT Co-ordinators, it is galling that they are unable to find more positive stories about Acorn in the press, which would help to provide ammunition when fending off the above situations.

The way forward

So, what of the long process of influencing opinions? Well, let's conclude with some of the exciting initiatives that are moving the process forward.

Acorn and the Acorn world in general, including the third party hardware and software suppliers, have not been passively sitting around watching all this happen: they're opening up new strategic markets.

Firstly, Acorn is being extremely pro-active in protecting its core education market, and has recently launched the Primary Information Management Solution (PIMS) in conjunction with Longman Logotron, so it can grow its schools business into the administration side as well as the curriculum area.

Secondly, together with Computer Concepts and A B Dick, Acorn is chasing the design and printing markets. Thirdly, Acorn has been putting resources into its export markets, in particular Germany, where opportunities have opened up, partly due to the profile of the market and also because of problems being experienced by other hardware suppliers.

Acorn has formed a subsidiary, Acorn GMBH, based in Dusseldorf, with a clear strategy of where it wants to go, and the resources it needs to get there.

Finally, there is Arm Ltd, which is winning plaudits and licensing its products with increasing numbers of manufacturers around the world.

A recent and rare positive feature in a PC magazine examining the IT industry in Cambridge featured Acorn and Arm prominently, and extensively quoted Sam Wauchope (Acorn MD) and Herman Hauser (one of the founders of Acorn).

Herman Hauser predicts that in the next ten years, Cambridge will produce a billion dollar technology company. Let's hope he means Arm and Acorn. After all, we can't all survive as a nation by selling each other services like insurance and hamburgers.

POUND FOR POUND

I was recently scanning a popular PC magazine when I came across a preview of *WordPerfect 6*. Scanning through the text I couldn't help noticing the paragraph: 'The latest release of *WordPerfect for Windows* version 6.0 can be honed down to a minimum of 14Mb and will steal a whopping 31Mb of disc space if the full version is installed.' You might like to read through that again...

This started me thinking how a big Acorn application, such as *Impression II*, compared on a price-per-megabyte value with this PC heavyweight.

The results are quite interesting: *WordPerfect* produces a value of £10.61 per megabyte (it costs £329 + VAT) whereas *Impression*, after considering the resources it comes with, has a score of £50 per megabyte. This figure rises to a massive £185 per megabyte if just *Impression* is considered!

ArtWorks produces a less impressive figure – about £15 per megabyte – but this is because it comes with mountains of fonts and graphics. But don't get me wrong: Acorn software may seem expensive compared with the PC sector, but given the choice, I know which way I'd go.

Another quote: '... though WordPerfect suggests 6Mb (memory) for a more comfortable ride.' Are they serious? I could have an entire arsenal of software on the iconbar with that much memory!

T G Riches
Worcester

Whether or not pounds-per-megabyte is a valid measurement of value is debatable, but this letter does point out one advantage of Acorns over PCs: system requirements are far lower for Acorns.

How many machines do you know that can run a fully-fledged DTP system like *Impression* on a 1Mb floppy-only system?

GRAPHICS PAD?

SSERC would like to allay some of the fears expressed by Geoff Preston in his review of the Graphics CD-Rom in February's issue. Firstly we explain on CD and manual why the BodyBits graphics are duplicated – how else could individual bones/organs be accessed from the front-end program if they were not saved as separate graphics? As the full skeleton is only 69K, the *Bones* directory at 70K therefore only pads out the disc by 0.02%!

Secondly we don't suggest that anyone 'wades through' the directory structure as the primary method of searching for graphics. The CD does not set out to be like an encyclopaedia or anthology which you can browse through like leafing through a book.

The fundamentally important front-end program sits on the iconbar until the need arises for a graphic, data file or application; the high quality graphics found can then be used in other applications to produce multimedia material or DTP'd notes.

Considering that the CD has potential applications across four departments, at least, in an educational establishment, we feel the investment of £37.50 per department head is certainly not unreasonable and palpably within reach.

J Birrell
SSERC

Always let someone have the right to reply, that's what I say. Still, it doesn't change the fact that Geoff's opinion of the CD was less than enthusiastic, and his opinion is certainly just as valid as the manufacturer's. Perhaps more so, as he's unbiased.



Artworks: pound for pound it's good value

SHOW STOPPER

Many thanks for sending the tickets for the Acorn User Show. My eldest son Christopher, aged 12, will be attending after a very enjoyable and beneficial event in 1993.

We bought our son an A3010 Learning Curve; we didn't even consider a games console or a PC as he was enthralled by using an A3000 at primary school. He used his computer to produce the school magazine and now he is at the local grammar school he has produced articles and school passes for various school clubs.

He has acquired expert keyboard skills from manuals and now uses various software to produce projects for his homework. These have enabled him to obtain an excellent first term report in recognition of his hard work.

We are not a wealthy family in financial terms, but we feel that the acquisition of an Acorn computer has been a sound investment for his future development.

I hope Acorn and all the companies involved in the production of hardware and software are aware of the enormous benefits and pleasure they provide for future generations.

R G Dennis
Altrincham

Gets you just *there*, doesn't it. Especially as he's totally right.

Drop us a line at Acorn User, Europress Enterprise Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP

The BJC-600 and RISC OS 3 Turbo DRIVERS

The new BJC-600 A4 plain paper printer from Canon, combined with Computer Concepts' 24-bit TurboDriver software, provides a key component in the full colour revolution that is occurring in the Acorn world.



REVIEWS

> *"Perhaps the most impressive thing about the BJC-600 is that it can happily print on bog-standard plain paper...*
> *The second most impressive thing is the colour, which is positively vibrant and quite even...*
> *Quite simply it's the best colour printer under £600..."*
> **PCW**

> *"The output can be brought as close to perfection as you'll get this side of a dye-sublimation printer...*
> *The BJC-600 enables Acorn users to finally break the colour barrier...*
> *The results are nothing short of brilliant"*
> **Acorn User**

AFFORDABLE, HIGH QUALITY COLOUR PRINTING

The printer comes bundled with the latest colour TurboDriver software. This provides the fastest possible print times and full control over half-tones. The software includes advanced grey component replacements and black generation algorithms to ensure accurate colour reproduction and good greyscales - it also avoids 'black flooding' that can occur with other printers.

The package also includes; all necessary leads, start-up and user guide, colour documentation guide, a set of inks, DOS and Windows drivers and sample inkjet transparencies.

Some of its key features:

- Four colour CMYK inks for the best full spectrum of colours including real black.
- Separate ink cartridges for each of the colours - saves ink and money. It's even possible to change the ink cartridge part way through a page being printed.
- Ultra fast drying inks designed specially to prevent ink spread on plain paper - no other colour ink-jet printer can even come close to the quality obtainable from this printer.
- 360 dpi provides 40% more dots per square inch than 300 dpi printers - visibly better resolution.
- The high quality of print on plain paper means lower running costs than other colour inkjet printers.

NEW LOW PRICE £60 OFF

RRP: £469.00 + £10.00 carriage + VAT (£562.82)
For 24 bit colour work we recommend 4Mbytes RAM and a hard disc.
Requires RISC OS 3.1

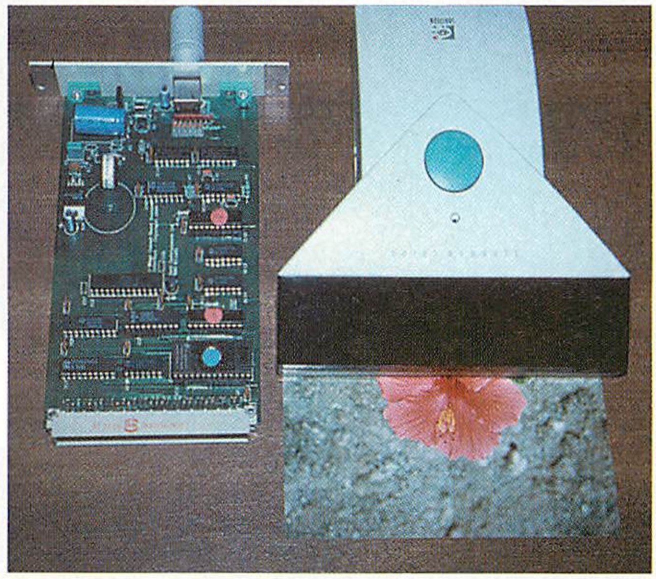
E&OE Prices & descriptions are subject to change.

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Handy colours

Jack Kreindler tests out Irlam's new cost-effective colour hand scanner



Irlam's Scanman Colour is the first Acorn hand scanner to break out of the world of monochrome. At first sight the scanner itself appears attractively designed with contrast and resolution controls on its side, and except for the word 'color' on the casing there appears to be no significant difference between this and any other hand scanners around. If I hadn't known what the Logitech Scanman was capable of, I would definitely have been in for a surprise.

Software

Prol-Mage is Irlam Instruments' scanner software and is responsible for managing images input via the scanner's single width podule. Setting up the scanner is easier than pie: just slot in the podule, plug in the scanner cable, load the software and off you go.

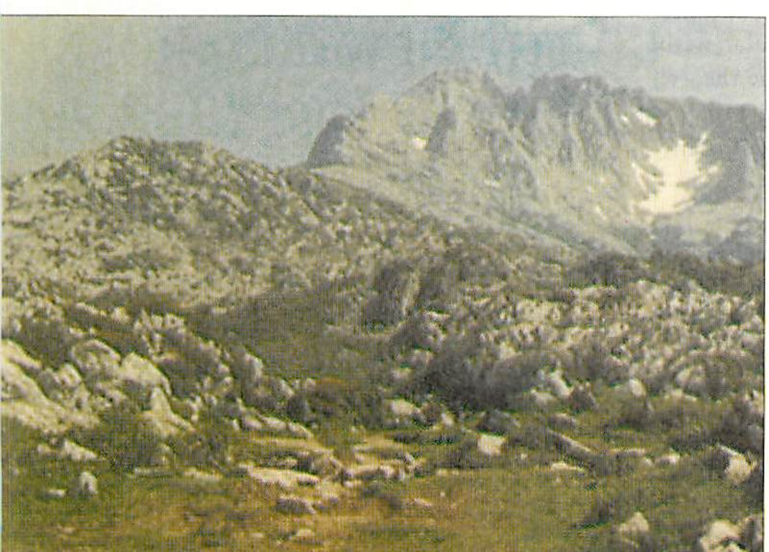
The *Prol-Mage* application opens into two windows: a viewer and control panel. The latter offers pre-scanning features such as control over scan area, a resolution indicator and scan type: monochrome, 4, 16 or 256 greys and of course the all-important colour option.

Selecting the colour option will normally limit you to a 100dpi scan resolution. Irlam Instruments is developing the very fast routines needed to save images directly onto hard disc, so problems with memory will be short lived, we hope.

Scanning

To input an image into your computer you simply need to click on the scan button in the control window; this illuminates the light in the scanner. Pressing the circular button on the scanner activates the scanner's CCD array and scanning can begin.

The travel of the scanner is smooth and gone is the need to hold the button during the entire scanning time. At 400dpi I had to move the scanner at a snail's pace to allow the enormous amounts of data to be transferred to the computer, but at the expense of fewer dots-per-inch this factor became a lot more tolerable. The actual imagery is excellent, although it takes a while to process and there is no real–time image previewing (though Irlam is working on this). Even at the lowest resolution of 100dpi, at which most monochrome images seem a little blocky, the colour scans look very impressive.



24–bit colour scans are now possible with Scanman

The scan is initially displayed in dithered 256 colours, and can be saved in a number of formats: Clear, TIFF, PBM+, Sprite and JPEG. Using Irlam Instruments' superb *ImageBank* application, I saved each of my scans in 24-bit colour depth and viewed them in the 32,000 colour desktop modes on my ColourCard Gold.

Though the full 24-bit colour depth couldn't be viewed in 32,000 colours the images were admirably reproduced compared to the original material. One small niggle was the fact that selecting the Output File Format can only be done before the scanning, so if you want a TIFF output but you've selected JPEG then the scan must be repeated.

Other options on the post-scanning aspect of the control panel include gamma correction, dithering, inversion, sharpening and contrast expansion facilities. Although this may sound very comprehensive, without additional software such as *ChangeFSI* anything other than the most basic image manipulations are almost impossible.

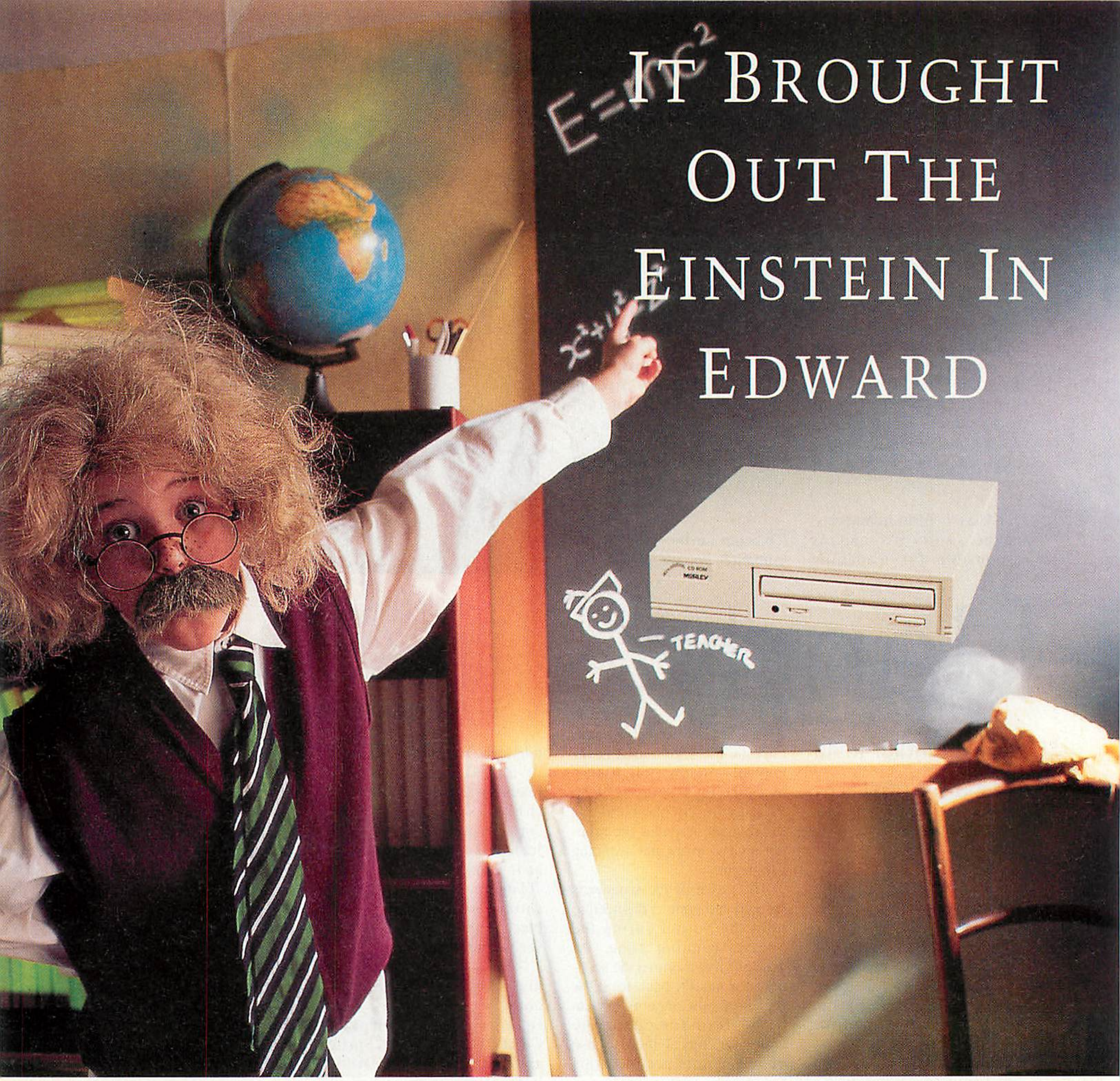
This is a shame as having a fully-equipped and powerful image-processing side to scanning software is a great advantage, both to the user and from a marketing point of view.

Any variations in both monochrome and colour images, which would otherwise manifest themselves as bands of lighter or darker-than-average colour across the scan, are eliminated.

Though not suitable for intensive or professional use (because of its speed, ergonomics and limited resolution) the Scanman Colour represents a definite alternative to the marginally cheaper monochromes available, and is the first truly affordable way to input high quality colour imagery for the lower-end user.

Product details

Product: Scanman Colour
Supplier: Irlam Instruments
Tel: (0895) 811401
Price: £359 + VAT



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• A3020/4000 to 4Mb RAM Upgrade	£70
• A5000 to 4Mb RAM Upgrade	£79
• A5000 to 8Mb RAM upgrade	£359
• A540 4Mb RAM Upgrade	£249

A310 upgrades are dealer fit only – we will collect, fit, deliver computer back for £24

Arc to BBC/Serial Link

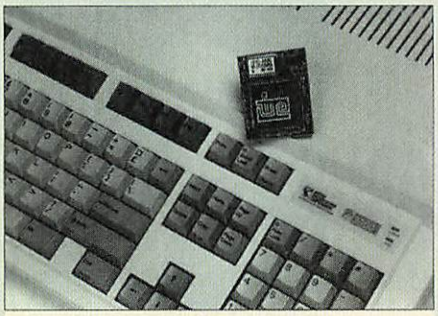
Using this simple transfer link, you can transfer all your data from your BBC micro to your Archimedes. The kit is supplied with software and a connecting cable.

• RISC OS 2 version	£15
• RISC OS 3 version	£16

On-site Warranties

• A3010, A3020, A4000 1yr On-site	£25
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ADA 0580	330Mb	16mS	£359
ADA 2030	420Mb	13mS	£469

All above upgrades are supplied complete with drive, controller card, cable, software and easy-to-follow instructions.

A5000 Internal IDE Drives

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A3000 Internal IDE Drives

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ADA 2090	340Mb	16mS	£509

A300/400 Series IDE Hard Cards

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ADA 0680	120Mb	18mS	£249
ADA 1090	200Mb	18mS	£379
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Accessories

• A300/400 IDE Interface (16-bit)	£79
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• ROM Upgrade for use with RISC OS 3	£16

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- Archi Analogue/User card £55

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- 16-bit SCSI card £149
- 16-bit SCSI card – Acorn £249
- ST506 Hard Disc podule £69

Ultimate Expansion

- Ultimate Expansion – A5000 £39
- Ultimate Expansion – A3000 £39
- Ultimate Expansion – A3010 £41
- Ultimate Expansion – A3020 £38
- SCSI uPodule £69
- Vision Digitiser uPodule £79
- Analogue uPodule £29
- Serial Port uPodule £49
- MIDI uPodule £49
- Scanlight 256 uPodule £229
- PSU Kit for Ultimate Exp. £30

(please call for pricing of above cards with IDE hard drives fitted)

Graphics Cards

- Colour Card Gold £239
- Mono Real-time Digitiser £75
- Chroma 500 Genlock card £419
- Chroma 150 PAL Encoder £169
- Chroma Genlock card £209
- Hawk V8 MKII Digitiser £189
- Eagle M2 Multimedia card £275
- HiVision Colour Digitiser £149

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- Spectra Colour Handscanner £549
- Scanlight 256 – A300/400 £188
- Scanlight 256 – A3000 £198
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- Scanlight Video 256 £199

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- Ethernet card – A300/400 £139
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- Econet Module – A3020 £49
- Econet Module – A4 £49
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- A3 Primary keyboard £99
- A4 Designer keyboard £104
- A3 Designer keyboard £104
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- Universal 2010 keyboard A3 £107
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- Advanced image processing tools.
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- Selectable scanning modes
- 105mm scanning width
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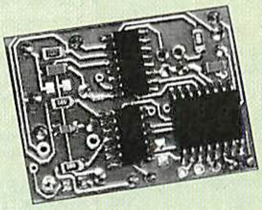
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Note: Scan256 is not suitable for A3010/A3020 or A4000 computers.

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A disc of utilities is supplied to allow you to define your own modes, and change existing ones. A desktop mode selector is also supplied

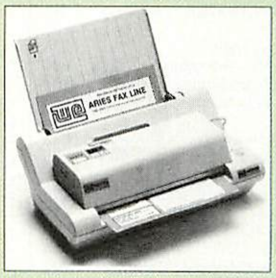
- Multiscan VIDC Enhancer £19
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- 9 to 15 pin VGA Adaptor £12

Archi Hand Scanner

Watford's MKII hand scanner for the Archimedes and A3000 has a maximum resolution of 400dpi, and a scan width of 4". The software is supplied on ROM, so there are no discs to load. Features include: cropping and scaling images, X flip and Y flip, and edge detection allows you to transform solid images into outlines.

- A300/400/A5000 version £89
- A3000 external version £109
- v1.10 ROM Upgrade £20

Archi A4 Scanner



The 216mm scanning width can cope with both desktop scanning of single sheets, photographs, etc, with its detachable sheet feeder, or used as an A4 wide hand scanner. 64 grey levels are produced from the scanner at resolutions up to 400dpi. The software included on ROM allows you to adjust contrast and brightness of the scanned image, rotate, shear and cut out sections of the image. The scanner uses a green light source which gives improved contrast on images over conventional red light scanners.

- A4 Scanner for A300/A400 £189
- A4 Scanner for A3000 £229
- Sheet Feeder for A4 Scanner £69

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10 out of 10 Early Essentials	£18
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10 out of 10 Maths - Algebra	£18
10 out of 10 Maths - Statistics	£18
10 out of 10 English	£18
10 out of 10 French	£18
10 out of 10 Dinosaurs	£18
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Seelinks – Pondwatch	£34
Seelinks – Tourism	£54
Seelinks – Transport	£34
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Settlement	£30
Snippet	£31
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Splash	£18
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Talking Pendown	£59
Teachers Cupboard	£24
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Victorians	£19
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World Map Study	£59
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Battle Chess	£21
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Includes Acorn Advance, PC Emulator with DR DOS v6, together with some demonstration versions of popular software packages. **£42**

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Sales Hotline 0582 745555

Laser Printers

All Laser printers (excluding HP Lasers) include 12 Months On-Site maintenance

Brother HL6	6ppm	£422
Brother HL6V	6ppm	£465
Canon LBP4+ 1.5M RAM	4ppm	£635
Canon LBP4U	4ppm	£485
Canon LBP-8 Plus IIIR	8ppm	£1559
Canon LBP-8 IV 600DPI	8ppm	£925
Epson EPL5000	6ppm	£433
Epson EPL-5200	6ppm	£483
Epson EPL-7500 PS	6ppm	£1135
HP Laserjet 4 ML	4ppm	£745
HP Laserjet 4	8ppm	£960
HP Laserjet 4L	4ppm	£469
HP Laserjet 4M	8ppm	£1286
HP Laserjet 4P	4ppm	£717
HP Laserjet 4MP	4ppm	£979
HP Laserjet 4Si	16ppm	£2175
HP Laserjet 4SiMX	16ppm	£3260
NEC 610 Super Script	6ppm	£422
NEC Silentwriter S102	6ppm	£914
NEC Silentwriter S102P PS	6ppm	£1284
OKI OL400EX	4ppm	£385
OKI OL410EX	4ppm	£523
OKI OL 830PS	8ppm	£799
Panasonic KX-P4400	4ppm	£360
Panasonic KX-P4410	5ppm*	£424
Panasonic KX-P4430	5ppm*	£530
Panasonic KX-P4440	10ppm*	£779
Panasonic KX-P5400 PS	4ppm	£599
Star LS-5	5ppm	£442
Star LS-5 EX (RISC Based)	5ppm	£510
Star LS-5 TT True Type+Mac	5ppm	£732

*2 years on-site warranty

Laser Toners

Canon 2, 3 & 4	£52	KX-P4400/5400	£12
Canon LBP4U	£52	KX-P4450/50i/55	£19
Canon 8/Star LP8	£52	KX-P4410/20/30	£29
Canon LBP8-IV	£65	NEC 290	£78
Epson GQ	£14	NEC S60/60P/62P	£89
EPL 40/41/4300	£63	OKI OL400/800	£19
EPL 5200	£85	OKI OL400e	£17
EPL 71/7500	£117	Star LP4	£48
HPII/D, III/D	£52	Star LS5	£63
HP IIP, IIIP	£46	VM800 8K pages	£99
HP4/4M	£70	Qume Crystal(3)	£99
HP Laserjet 4L	£45		

Laser RAM Upgrades

Type	1M	2M	4M	8M
HPIIP; III/P/D	£54	£90	£132	
HPII & IID	£65	£110	£175	
HPIIIsi	£63	£85	£158	£299
LJ4/4L//4M	£65	£85	£150	£299
EPL40/41/4300	£70	£110	£205	
EPL 50/5200	£58	£115	£215	
KX4410/30	£70	£110	£199	
KX4420/50i	£65	£89	£149	
KX4400	£89	£129	£239	

Jetpage Postscript Cartridge

- HP IIP/IIIP £225 ● IID & III £227

Various Add-Ons

- HP Premier Font Collection £19
- Laserjet Various Font C'tridges from £45
- HP Postscript Module for LJ4 £270
- Laserjet 4 Powered envelope feeder £199
- Jetdirect Ethernet Card for Laserjet IIIsi/4/4Si £339
- 500 Sheet paper cassette (3rd Bin) £205
- HPIIP/IIIP Lower Cassette Tray £115
- Canon LBP-4 Lower Cassette Tray £96
- Ozone Filter P4420 £9; P4450/55 £20

Despite appearances, we offer you very little choice.

At **Watford Electronics**, we will only offer any product when we are convinced that we can sell it at the best price with the right level of support. It's an approach that our thousands of customers appreciate, for we are now celebrating twenty-one years in the business. So as you look through all the lists of items that follow and discover how competitive we are, you'll discover just how little choice you have. **You simply must call us.**

Panasonic Printers

	Printer	CSF	Ribbon
KX-P1170	£91	£59	£6
KX-P1624	£210	£126	£8
KX-P1695	£267	£126	£6
KX-P2023	£122	£155	£8
KX-P2123M	£132	£69	£7
KX-P2124	£210	£89	£7
KX-P2624	£255#	£126	£8

#Includes 12 months on-site warranty

- Colour Kit for KX-P2180; KX-P2123 and KX-P2124 £30
- Dustcover for 80 column printers £6
- Serial Interface for above Printers £46
- Black Ribbons for P1081, 1180, 1124 £7
- 32K Buffer for above Printers £16

P.S. Our original Panasonic Ribbons are guaranteed to last 3 million characters.

Canon Bubblejet Printers

	Printer	CSF	2nd Bin	Ink Cart
BJ10SX	£154	£43	–	£15
BJ200	£202	–	–	£16
BJ230	£276	–	–	£16
BJ300*	£322	£88	£88	£11
BJ330*	£372	£92	£79	£11
BJC600	£418	–	–	£7.50
BJC800	£1075	–	–	£16

Black Cart. for: BJC600 £6; BJC800 £13

- Optional Battery Pack for BJ10EX/SX £33
- BJ10E/10EX/10SX/200/230 Jumbo Ink Refill pack (twice cartridge volume) £12

* includes 12 months on site warranty

Citizen Printers

120D+ parallel	£90	Swift 90C	£122
120D+ Serial	£109	Swift 200	£142
ABC 24pin Mono	£115	Swift 200C	£156
ABC 24pin Col.	£135	Swift 240	£170
Swift 90	£115	Swift 240C#	£187

2 years warranty on Citizen Printers.

FREE Windows Printer Driver

- Swift 24 Ribbons: Black £4 Colour £13
- Cut Sheet Feeder for 80 col. printers £75
- Citizen 120D Ribbons £3.50

Star Printers

	Printer	CSF	Ribbon
LC15	£179	£135	£5
LC100C	£103	£65	£9
LC24-15 Mk2	£240	£135	£5
LC24-20	£170	£–	£–
LC24-30C	£169	£–	£–
LC24-100	£130	£69	£5
LC24-300C	£224	£–	£–
LC24-20 Mk2	£173	£65	£5
LC24-200C	£200	£65	£12
LC200 C	£147	£65	£12
SJ144 colour	£345	£–	£–
XB24-200C	£320#	£80	£12
XB24-250C	£385#	£139	£12

Includes 12 months on-site warranty

- Black Ribbons for Colour Printers £5
- Serial 8K I'face LC10/15/24/200 £52
- 32K Buffer LC/XB24-10; 15; 200 £52

Scanners

AT – HP-ScanJet IIP **£500;** IIC £949
PS/2 – HP-ScanJet IIP **£501;** IIC £950
HP Auto Doc Feeder IIP **£229;** IIC £365
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Epson A4 Scanners: Supplied complete with Pic Publisher LE, Omni Direct OCR, Interface card & Cables

GTX6500P	£535;	GTX6500S	£599
GTX8000P	£699;	GTX8000S	£760

Epson Printers

	Printer	CSF	Ribbon
DFX5000C	£1095	£–	£23
FX870	£228	£47	£4
FX1170	£284	£69	£6
LQ100	£119	£–	£4
LQ570+	£189	£45	£4
LQ870	£335	£45	£6
LQ150 Col	£165	£–	£–
LQ1070	£285	£69	£6
LQ1170+	£404	–	£10
LQ2550	£667	£360	£6
LX100	£109	£–	£4
LX400	£91	£69	£4
LX850+	£134	£69	£4
LX1050	£174	£125	£6
SQ870	£415	£170	£23
SQ1170	£560	£155	£23
Stylus 300	£178	£–	£10
Stylus 800	£185	£–	£10
Stylus 1000	£344	£–	£10

Epson RS232 Interface

Standard **£28;** +8K Buffer **£75**

- LQ100 Tractor Feed £29
- FX850/LQ800/850 Tractor Feed £69
- FX/LQ1050 Tractor Feed £85
- LQ2500/2550 Tractor Feed £90
- Dustcovers for 80 col printers £6

NEC Printers

	Printer	CSF	Ribbon
P22Q	£134	£59	£6
P3Q	£–	£–	£–
P32Q	£245	£79	£6
P72	£386	£115	£8
P90	£562	£115	£8

- Black Ribbons P20; P32 £6
- Ribbons P60/70/P90 Black **£8;** Colr **£14**
- P60/70 Colour Option Kit £59
- CSF for P20 **£59;** P60 **£89;** P70 **£89**

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Connect up to 4 Micros to 1 printer or 4 Printers to 1 Micro with our combined, Sharer/Changer switch boxes.

Standard Low Cost Sharers

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● 3 to 1	£11	£12
● 4 to 1	£15	£16

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Connects	Serial	Parallel
● 2 to 1	£12	£13
● 3 to 1	£15	£17
● 4 to 1	£24	£26

Auto Printer Sharer Switch

Connects	Serial	Centronics
● 2 to 1	£27	£29
● 4 to 1	£44	£45
● 8 to 1	–	£75

256K Multi Spooler

These Parallel Auto printer sharer switches have built-in 256K Buffer.

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- 8 In / 1 out £149

(Cables for all printer switches are from £5 each please specify the type required when ordering.)

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Serial to Parallel & Parallel to Serial £32

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\+ Includes 12 months on-site warranty

3 years on-site maintenance available as follows:

DeskJet & DeskWriter mono £55
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22706B - Prestige, Elite, Line Draw £55
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Fujitsu Printers

	Printer	CSF	Ribbon
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B200 Inkjet	£209	£35	£14
DL1150	£209	£99	£6
DL1250	£309	–	–
VM600 Laser	£529	–	–
VM600E	£769	–	–

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DXY1150	£575	DXY1250	£725
DXY1350	£939	DPX2600	£POA
Sketchmate A4	£335	A3	£449

Printer Labels

(On continuous fanfold backing sheet)

1,000	90 x 36mm (Single Row)	£4.50
1,000	90 x 36mm (Twin Row)	£4.60
1,000	90 x 49mm (Twin Row)	£4.95
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2400 – 70 x 37mm (3 Rows x 8) £15.25

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• NEC 3V	£355
• NEC 4FGe	£499
• NEC 5FGe	£773
• Panasonic TX-13MAB	£629
• Philips 7CM3279	£295
• Philips 7CM5279	£242
• Philips 4CM4270	£289
• Taxan 787LR	£219
• Taxan 788LR	£259
• Taxan 789LR	£289
• Taxan 795 Trinitron	£489
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The new Aries A-Scan Pro multiscan monitor offers high-definition flicker-free display at a price that is affordable.

- 14" high resolution colour display
- 0.28mm dot pitch, non-glare tube
- 29KHz to 70KHz horiz. frequency
- Low radiation MPRII standard
- 1280 x 1024 non-interlaced
- complete with connecting cable

£249

Aries Monitors

Aries 6000 15" Monitor

- 15" high resolution colour display
- 0.28mm dot pitch, non-glare tube
- microprocessor control
- 29KHz to 70KHz horiz. frequency
- complete with connecting cable

£299

Aries 7000 17" Monitor

- 17" high resolution FST display
- 0.28mm dot pitch, non-glare tube
- 1280 x 1024 @ 70Hz (N/I)
- microprocessor control
- 29KHz to 70KHz horiz. frequency
- complete with connecting cable

£575

Aries 7500 17" Monitor

- 17" high resolution colour display
- 0.28mm dot pitch, non-glare tube
- 29KHz to 75KHz horiz. frequency
- front panel controls
- complete with connecting cable

£525

Note: the Super VGA VIDC Enhanced is required to use the above Aries monitors on an older Archimedes

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• ViewSpell (ROM/80T Disc)	£28
• InterWord (ROM)	£36
• InterSheet (ROM)	£37
• InterChart (ROM)	£25
• InterBase (ROM)	£45
• Mega3 - Word/Chart/Sheet	£76
• SpellMaster (ROM)	£42
• WordAid (ROM)	£20
• View Printer Driver Generator	£12
• View Printer Driver (ROM)	£29
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• ConQuest (ROM)	£20
• Quest Fonts (Disc)	£10
• Quest integrex 132 Driver	£15
• Wapping Editor (ROM/Disc)	£35
• Wapping Art (Disc)	£10
• Wapping Fonts #1 (40T Disc)	£10
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• AMX Stop Press (ROM/Disc)	£12
• Page Fonts for Stop Press	£13
• BASIC 2 (ROM)	£22

BBC Accessories

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• Solderless ROM Board	£32
• 32K ROM/RAM Card	£39
• 64K ROM/RAM Card	£52
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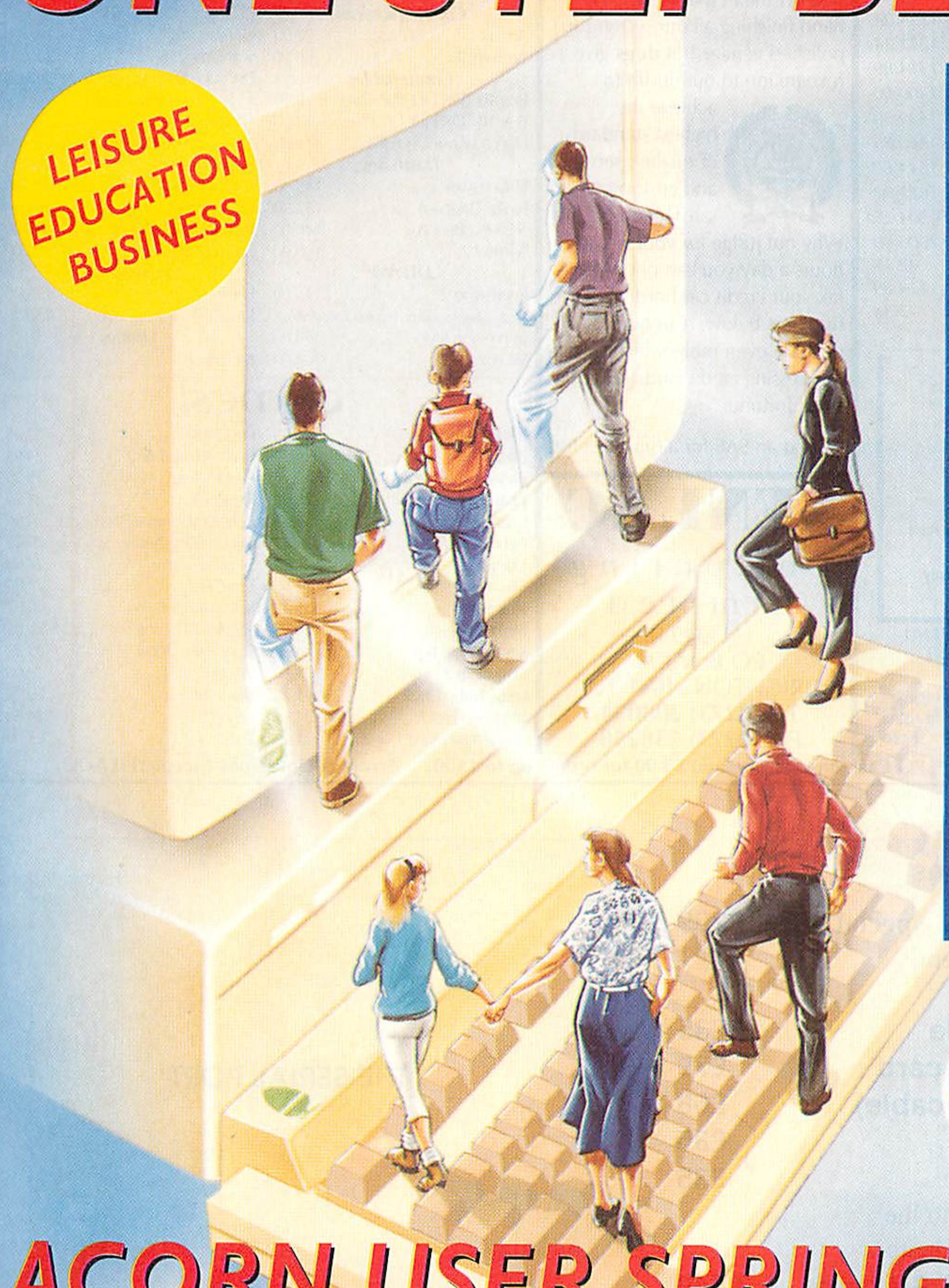


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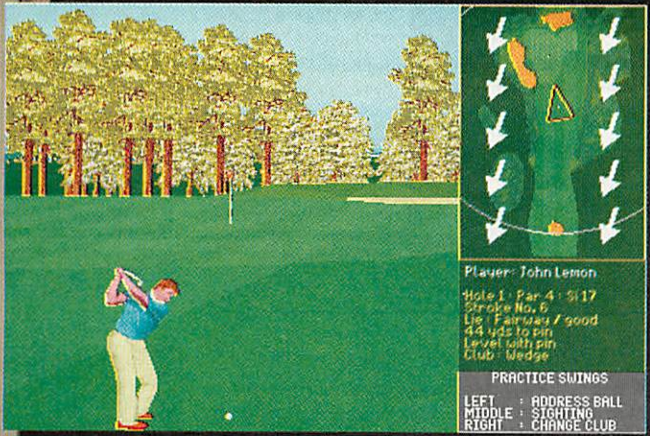
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GAME SHOW



Augusta: great, but still no virtual 19th hole

The Fourth Dimension has released a new course disc for its brilliant golf simulator *Virtual Golf*.

If you've seen the original game, you'll know it knocks the socks off anything remotely golfy on the Acorn or any other machine.

Honestly, you take a look around at the next all-singing, all-dancing games show at Earl's Court and find a better golf game than this. The others will have Nick Faldo or Sandy Lyle, but go up close and there's just no comparison; *Virtual Golf* walks it.

And now, ten months after it was originally launched, the Augusta course disc has finally been released, providing another 18 holes to master. The Augusta course can only be played if you have the original *Virtual Golf* game, which costs £34.95. The new course disc will set you back £16.95.

Sam Greenhill

Asteroids hurtle into Sky

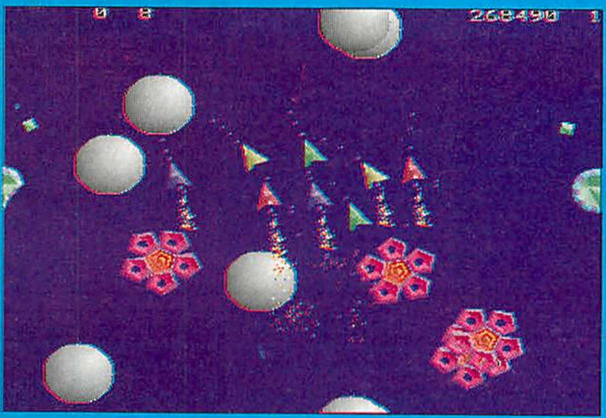
Sky TV has homed in on the addictive asteroids shoot-em-up *Spheres of Chaos* from budget-price games house Matt Black.

Makers of the popular satellite show Gamesworld are looking for a new game to feature on their twice-weekly Fight Night slot, and they believe *Chaos* might be just what they're looking for.

A new version of *Chaos* has been specially produced to handle up to eight players at once, to fit Sky's requirements, and filming will begin in June.

On Fight Night, Sky wants to pitch five contestants up against each other as, watched by millions, they blast asteroids and aliens into another dimension. The five will race to reach a target score and the last one to get there is promptly hailed a complete no-life (well, 'the loser' at any rate).

The new series of Sky's Gamesworld will be screened in September but you can get your hands on the special new *Spheres of Chaos* by contacting Matt Black on (0733) 315439. Upgrades are available.



The best asteroids game just got better

Aggressor 2: this time... it's got a new name

Heckler and Kosh: this time... it's personal. This time... there's still two of them. This time... there's still lots of Alien-style aliens, and, er, yes, this time... it's still pretty poor.

The remake of *Aggessor* – sub headed 'Macho Edition' – has new scenery, new end-of-level guardians and more puzzles. But it's still tiny on screen, slow, fiddly and altogether quite boring. The best thing that didn't change is the price: still only a tenner.



Aggressor 2: It's different, but not that different

CHEATS

Aggressor

This month we have a couple of cheats on offer to ease those Alien-slaying hours. If you have the original *Aggressor*, then the cheat can be activated by playing the game and blasting away until you achieve enough points to secure a place on the high score table.

Then enter your name as Terminator and see how this affects your fire-power! If you have the all-new, improved 'Macho Edition' then do the same but type BlooDSporT instead (retaining the capital-ness of some of the letters). Thanks go to Thomas Cork of Clevedon and Alex Cooper of Luton.

Ballarena

The passwords for long-gone-Eterna's popular bat 'n' ball game are, coutesty of The Bear: PUNKANDJUMP, MONTPELLIER, SEA SEX SUN, VL 86 C 010, MOUNTAINEERS, GRENOULLIE, BLUBEDILOMAR, BRAIN KILLER, RHYTHM BOX, BOUBOULOID, MENFOU, 32 BIT POWER, MARTINI, SEE YOU SOON, ETERNA.

Technodream

Superior Software's classic hit shoot-em-up is easy for some. If you're getting extremely frustrated by those... those... so and so's and feel like kicking something cute and furry then accept a helping hand from Richard Brown of Coventry.

The passwords, for level one: NONE, ASTRA, BLUEROOM. And for two: EARTH, GAIA, MOONDUST. Level three: NEBULUS, ORBITAL, STAR.

Thanks Richard. My cat says thanks too, by the way.

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However, it's not quite that easy! You have to carefully manoeuvre your way around using various Conveyers and Transporters, and a lot of cunning strategy. You collect the Gems as you move around, whilst dodging the deadly Androids, but what do you do with the Towers, Trees, Grass, Mushrooms and Holes?



"Repton 4 is challenging, good value for money and well graded. What more can I say?"
...Acorn Computing (Jan. 93)

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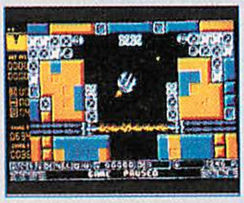
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TECHNODREAM

At last, the action-packed sequel which everyone has been waiting for! Now, in addition to a 1 player option, you can choose to have 2 players simultaneously. Now, in addition to horizontal parallax scrolling, there is vertical scrolling to give a much enlarged playing area.

There are 18 increasingly fiendish stages, with brilliant arcade-quality graphics and massive animated sprites, plus digitised sound effects and 6 atmospheric pieces of stereo music. Control by keyboard or joysticks (Acorn A3010 or RTFM).

"Technodream's action gets so fast and furious the screen looks like an abstract painting. A highly polished product and well worth the asking price of £25."
...BBC Acorn User (May 93)

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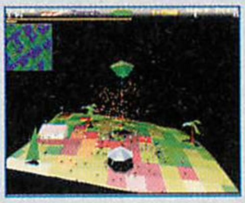
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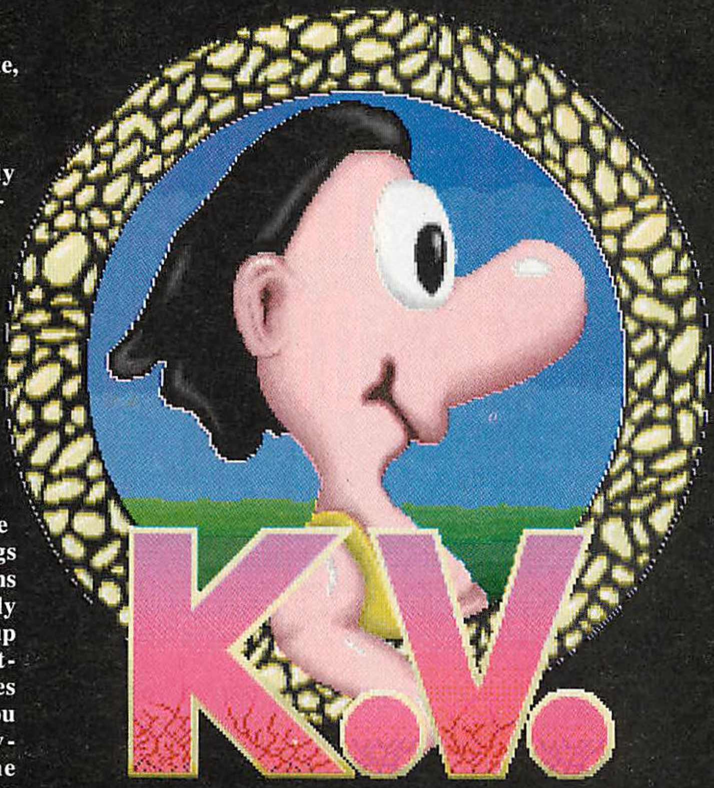
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Nice to see that the steady flow of independently-produced games shows no sign of drying up. In this one, the authors have dispensed with the silly background story (about how the dragons in it originally came from Mars and so on) and have just got on with the game itself.

You control a lovable little caveman, KV, as he strives to collect all the eggs and avoid all the dragons on each of 100 increasingly tricky levels. He waddles up ladders, scoots across platforms and generally does all the hard work while you can just sit at your keyboard, listening to the funky music and chuckling at the way his head moves as he walks.

He can hop onto passing elevators to help him reach higher platforms or escape from dragons – who seem to know where you're going, and try to stop you.

Various 'bonus eggs' pop up from time to time, and collecting them can have different effects, like higher jumping or providing you with a handy balloon to stop you from splatting on the ground when you fall off a high ledge.

There are some nasty ones too, though, so you have to keep your wits about you. The eggs have to be well-and-truly in the basket within a time limit (displayed on a rather fetching 'dragon clock' on the right of the screen), otherwise our hero turns to stone and looks decidedly fed up. I must just say at this point that the words 'Chuckie' and 'Egg' spring irresistibly to mind for some reason... odd that.

The animation of KV himself and the dastardly dragons is superb, as are the backgrounds and music, but there's not that much actually going on.

You might think that the differently patterned blocks which make up the platforms would do different things when you walked on them – like dissolve, or make you skid or something – but sadly this doesn't happen. Also, the control of the character is a little squiffy and he sometimes has problems jumping onto platforms without reversing and take a run up. A module is prov-ided so that you can use the game with a joystick, and there's also an editor program included which lets you design your own levels (once you've obtained the editor codes by finishing each screen, of course).

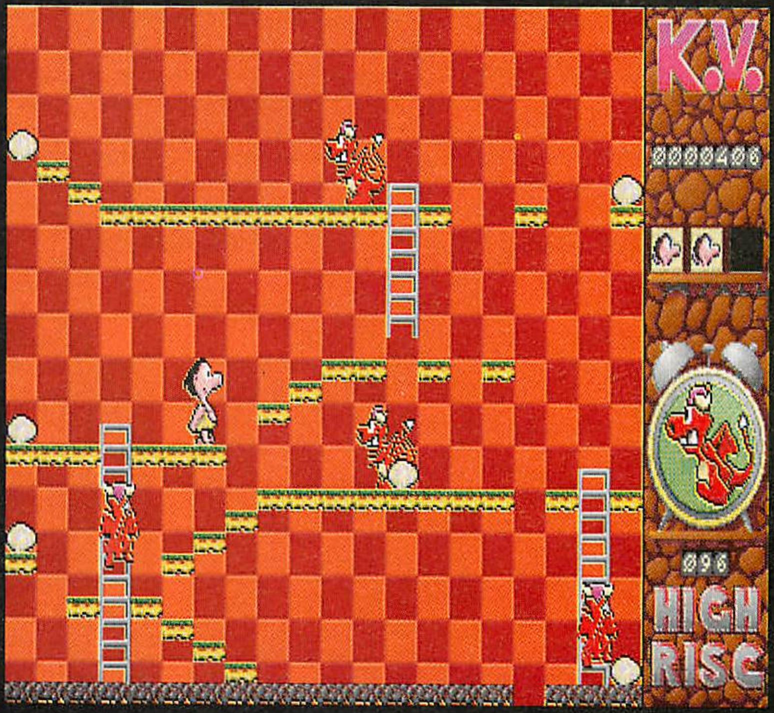
The editor application sits on the icon bar along with the game, and has all 100 levels loaded in automatically at the start. You simply type in the code for the level you want to edit or redesign, and windows appear with the layout of the level in one and the editing tools in another.

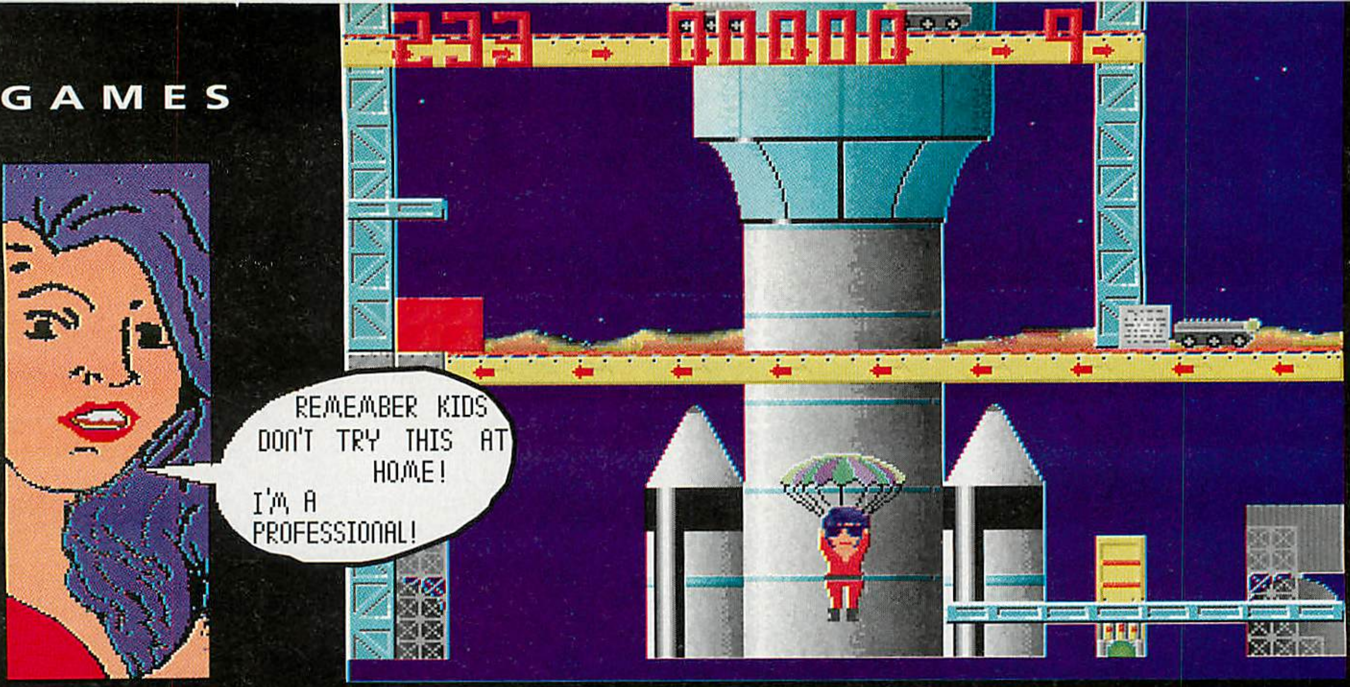
The main problem with the editor is that there are quite a few checks you have to make before you are allowed to save or test the new design – ladders must extend exactly one block above the platform they reach up to, for example.

This makes it rather annoying when you have just spent some time finishing the mother of all levels, only to have to redesign it when the error messages start flashing up.

Surely most of the checks could be included in the editor program so that mistakes can be weeded out at the end, or perhaps the program should tell you as you design that the structure you're making will not be allowed. Anyway, this is a minor grumble about what is otherwise a fun little game – those two little words keep going round my head, though...

Mat Tizard





THE EXOTIC ADVENTURES OF SYLVIA LAYNE

Supplier: The Fourth Dimension
Tel: 0742 700661 or 769950
Price: £25.95 (inc. VAT)

Luck? Who needs it when you've got charm, charisma, strength, agility and an amazing pair of eyes! So laughs Sylvia Layne, brimming with confidence as the number one super gal who swings into action to save the world yet again.

Well, not exactly the world, just one mad professor who got himself kidnapped just as he was on the verge of a major genetic discovery.

Apparently the balding boffin was meddling with the genes from sheep and kangaroos in an attempt to engineer a *woolly jumper*, (groan!) when some guys from the animal liberation front bounced in to stop his tamperings with nature.

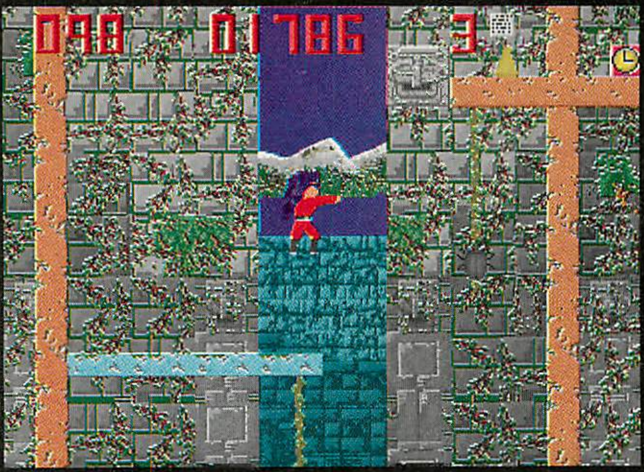
Prof Marcus Mousacca was promptly kidnapped and they will probably clip his toes off with some hedge cutters unless someone saves him first.

Sylvia Layne can't stay still for a second. Anyone would think she was a kangaroo herself the way she bounds effortlessly around the screen, leaping from precarious rock to leafy vine and back again.

High kicks, low kicks, punches, jumps, somersaults and rolls... yes, you've guessed it, The Exotic Adventures of Sylvia Layne is a familiar old beat-em-up, with platforms and ladders and a pinch of adventure thrown in.

To find the unfortunate prof, our hero has to visit several locations by following a trail of map pieces, which the cunning academic managed to drop as he was whisked away.

Sylvia must dodge huge boulders tumbling through Aztec temples in the Andes, fight burly construction site workers on the streets of New York and disable robot guards at the Houston space centre to collect all the pieces of the Professor's map.



Each scenario has five levels, which are two-dimensional and scroll vertically over about seven screens. Sylvia starts at the bottom and has to work her way up, bashing anything that gets in her way.

In the Aztec world, this means the merciless slaughter of dozens of unsuspecting jungle creatures who were happily snoozing away on branches or scampering playfully around, minding their own business.

In pursuit of the prof, Sylvia doesn't care what damage the female touch causes along the way. It's just a shame she doesn't have a Q-Branch fold-a-way stove, or she could feast out on the hapless animals after she's killed them.

On each level there are a handful of puzzles to solve but don't worry fellow numskulls, they aren't that difficult, at least not at first. They usually take the form of a little bouncing pyramid or something that needs to be *kick-bounced* across the platforms to a magic box, where it instantly transforms into an amazingly useful gadget – a pneumatic trampoline or a long bamboo pole, which Sylvia can pick up and store in her pocket for later use.

To complete the level, nimble Sylvia has to collect four pieces of map and get back to her own personal airship, hovering close above the action.

On one level there is an annoying little monkey that keeps stealing the map pieces after Sylvia has picked them up. Last time it happened the cheeky chimp laughed at her and swung around mockingly nearby. Luckily the mischievous primate was eventually persuaded to give it back – Sylvia landed a high-powered Bobbit-special right where it hurts!

Exotic Adventures has its moments but I don't rate it in the big wide-world of today's wonder games. Everything about it smacks of back to basics. Blocky graphics, insignificant sound, mechanical motion - with the exception of Sylvia's impressive aerial somersaults – all stamp a pretty ancient date to the game, and it is little more than bright colours that distinguishes it from the games of the 1980s.

That said, I reckon young children and doddery old pensioners will find it challenging, fun and just what they need on a rainy day. Just avoid it if you're an old pro.

Sam Greenhill

Showroom open Mon-Sat 10-18.00 hrs (All prices exclude VAT)

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TopicArt12 - AnimalsGB



TopicArt4 Entertainment

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Although Acorn RiscOS computers are the easiest to use, it is essential for even the most basic user to understand the fundamental principles, some of which are rather difficult to learn. Once mastered the computer will be able to be used efficiently and to its maximum potential. This friendly informal course is designed to provide you with these essential skills enabling you to work wonders with your Acorn computer and to solve problems yourself. Topics covered by the course include optimising your computer set up, running/using applications, understanding computer jargon, using printers, managing files, troubleshooting, expanding your computer, plus many more. Ring now for details of special introductory offers and dates.



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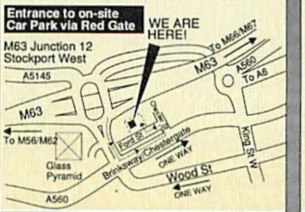
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APR 94

WIN

10 COPIES OF BIRDS OF WAR

Okay hot-shots, listen up. The enemy has made a fatal slip up and we can turn it to our advantage to reap the rewards. If you pull this one off the admiralty will be deeply impressed and has ten Fourth Dimension games to hand out as recognition of service above the call of duty.

The mission is simple. Our boys and girls in intelligence are getting a bit old now, especially the ones who are still fighting Jerry, so have tended to overlook a few important details that are pretty important to those girls and boys flying the planes.

Your job is to infiltrate the nursing homes, seek out our agents – most will be lounging around in television rooms, others will be in the back playing croquet – and set their targets on the realities of modern warfare.

I'm afraid some of them still think we used triplanes in the Gulf War and some have such dismal memories that they have difficulty remembering their own era!

When you've found them, set them straight, bring them up to date and they'll be back in the control rooms sending useful titbits of information down the wire to our girls and boys in the cockpits.

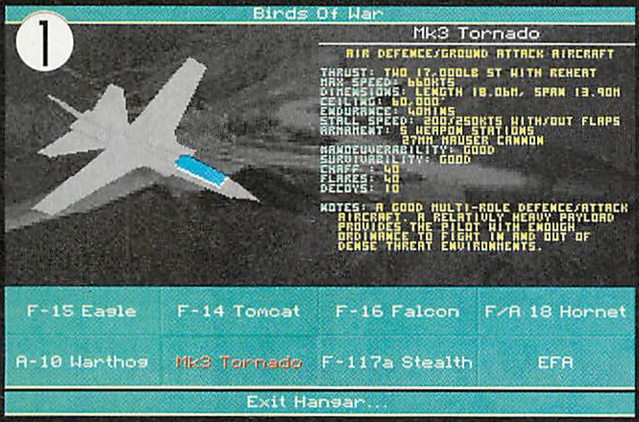
Therefore, we'll be two steps ahead of the enemy and everything will be hunky dory. And the admiralty will be well pleased. Get to it and good luck!

To win

To win a copy of the massive flight simulator *Birds of War* or any other Fourth Dimension game, simply answer the following questions and send them in to: *Birds of War* Competition, Game Show, Acorn User, Europress Enterprises, Europa House, Adlington Park, Macclesfield SK10 4NP.

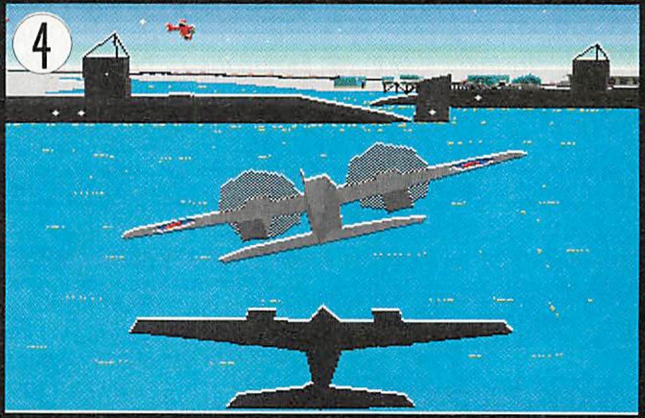
The first ten correct entries out of our hot shot's helmet can choose any Fourth Dimension game *free*. The closing date for entries is 30 April 1994.

1 What is so special about a Stealth bomber?
2 What sort of camel flies high in the sky and has a machine gun attached to the front? (And don't say 'a dangerous one!')
3 In modern Air Force terms, what does AAM stand for?
4 How many missions does *Birds of War* have?
5 Which of these four scenes from *Birds of War* is the odd one out and why?

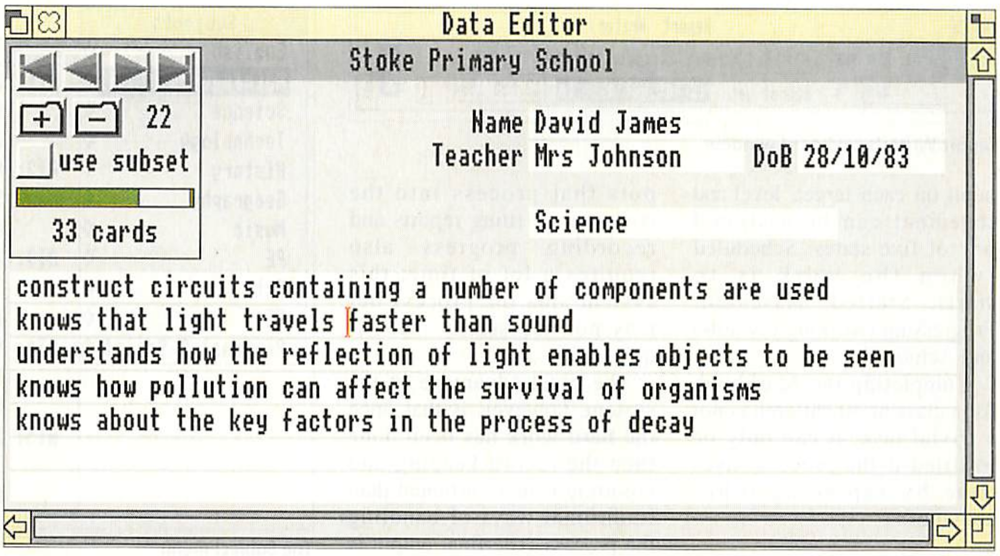








John Woollard takes a fresh look at the teachers' mark book with two applications which aim to take the stress out of reporting



Using Junior Database to construct a report

On your marks

Product: CLASS
Supplier: Curriculum Learning Assessment Dept, LSU College
Tel: (0703) 228761
Price: £170 + VAT (six-user site licence)

CLASS is the electronic version of the teachers' mark book, and then some more. It helps generate those end-of-term reports and notes about little Johnny and how well he is doing.

CLASS is designed to help the classroom teacher plan, record and then monitor the progress of pupils.

There are four major aspects to using the program. First is the Register, which is simply a database of the pupils and their personal details. Second are the Subject files: these are specified as statements of achievement at each level over a range of strands (or attainment targets).

However, attainment targets and statements can be replaced by your own aims and objectives. The third step is to combine the data in the Register and the Subject files to create a Markbook, into which the pupils' progress can be entered. The final aspect is the use of that Markbook to create personalised reports.

CLASS is distributed as a site licence and may be copied for use on a number of computers within the school. Before using the program a password has to be entered, which can be changed by the user.

Although the knowledgeable and persistent miscreant can cause problems, the use of a password does indicate that the information (and discs) ought to be protected. The application also encrypts the data when saving it on disc so that the files cannot be modified without using the proper program.

Using CLASS

Setting up a Register is very easy. The program is a dedicated database manager and is designed to allow efficient entry of the pupils details, including date of birth, gender, address, guardian and telephone number.

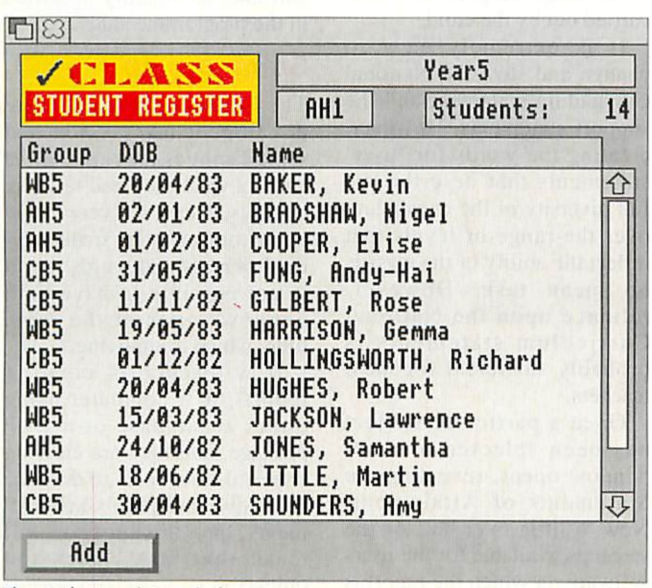
Once entered, the names can be sorted, edited or reported. The print-outs can be in table or label format. At all points, the program allows the saving of the data as plain text and therefore it can be used with any word processor or DTP package.

The subject files are harder to set up. Given a scheme of work, it requires the teacher to systematically describe the attainments that the pupils will be expected to attempt and then describe them at a number of levels of performance.

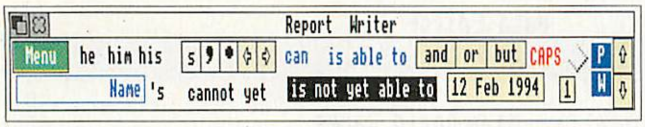
Even for a simple project, this may require up to three or four targets being described by up to four strands, (they call them columns) and over three or four levels according to the range of abilities in your teaching group.

The package comes with a range of ready-made Subject files containing the full texts of the National Curriculum. If all that is required is recording and reporting of National Curriculum attainments then there is no need to create your own Subject files.

The Markbook feature combines the data found in the group Register with the data in the Subject file. Each



The student register window



Report Writer's keyboard window

pupil on each target, level and statement can be assigned one of five states: Scheduled (when the work is to start), Started, Assessed, Progressing (working towards) and Achieved.

Completing the Markbook for a class of 30 children is not a trivial task: it can only be justified if the process saves time by replacing other activities.

Freindly reports

The data can be output from the Markbook in two ways. Simply installing a printer driver enables the data to be printed to A4 paper, in landscape or portrait.

Specific pupils, classes or subsets of pupils can be selected, and the full data set can be used or the option to print data between two dates is available. A useful facility is the Summary statement option, which enables the creation of more friendly and informal reports.

The alternative output is to export the data as a plain text file. Like all other output from the package, these text files can be used directly within word processors and DTP packages. The information can therefore be incorporated into other forms of report.

Summing up

Creating the aims and objectives for a scheme of work and then specifying the assessment criteria over a range of levels is not a quick task.

This package does not make the process easier, it simply puts that process into the computer. Writing reports and recording progress also requires a lot of time; this system aids the process but may not necessarily make it quicker.

The great advantage of the system, however, is that once the hard work has been done then the record keeping and reporting is more efficient than traditional ways of handling the process. The final output is well presented and warrants the effort required.

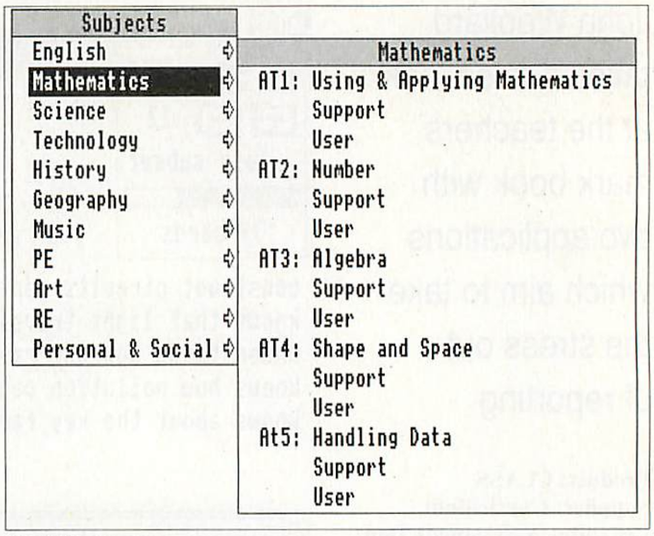
Product: Report Writer
Supplier: Creative Curriculum Software
Tel: (0422) 340524
Price: £49 + VAT (single user), £89 + VAT (four users)

Report Writer is an application designed to take the typing out of typing reports. The basic principle is that clicking on various icons and blocks of text automatically inserts the required text into any report format. The application can be used with any desktop word processor, desktop publisher or database system.

Before this program can be used, the software to create the report has to be selected and the layout of the report needs to be decided upon.

I tried out the program on a wide range of applications including databases (*Squirrel*, *DataPower* and *Junior Database*), DTP packages (*Impression Junior*) and word processors (*1st Word Plus* and *Wordz*).

In every case *Report Writer* works in the same way: simply clicking on the icons of the *Report Writer* window causes text to be entered into the database, desktop publisher or word processor.



The Subject menu

Writing reports

The major feature of *Report Writer* is the menu, which enables the user to select Statements of Attainment from any National Curriculum subject. In addition there are other subject areas available such as Personal and Social Education and RE.

The subjects are divided into the statutory Attainment Targets and the latest National Curriculum words are provided.

In addition, there is the opportunity to create 'user' statements which can reflect the teacher's personal style of writing, or statements reflecting the precise work carried out by the child.

It is extremely easy to change and save the National Curriculum statement and the support statements. However, creating the words for 'user' statements that describe the full diversity of the curriculum over the range of levels that reflect the ability of the class is no mean task. However, reliance upon the National Curriculum statements is probably sufficient for most teachers.

Once a particular subject has been selected another window opens, revealing the Statements of Attainment. Now, a little over half of the screen is available for the users software, in which the report is to be constructed.

When I needed a full page to balance the layout of the report it proved to be a little difficult, but using a database that automatically scrolled when moving from one field to another removed the problem.

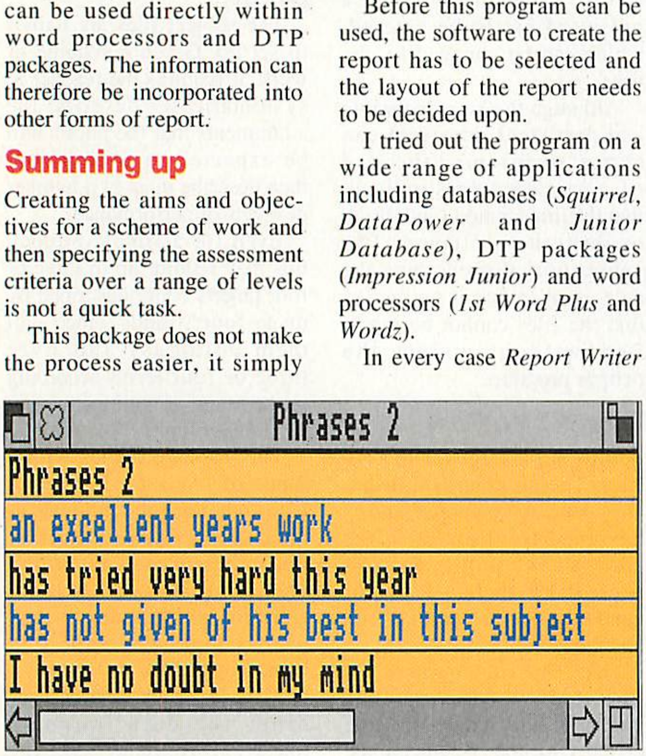
Creating sentences around the Statements of Attainment is greatly aided by *Report Writer*. For example, when working on a particular child's report, their name can be entered into the Name icon. The following sentence was created using only 20 clicks of the mouse and not touching the keyboard once:

'Christine can name familiar features in the local area and state where she lives, but is not yet able to name the countries of the United Kingdom, or describe similarities and differences between the local area and another locality specified in the programme study.'

Summing up

The software is still being developed; my version had some facilities missing but the authors were prepared to make changes. There is a very useful option of displaying frequently-used phrases and words, but it is not possible to have both windows open at the same time, which is annoying.

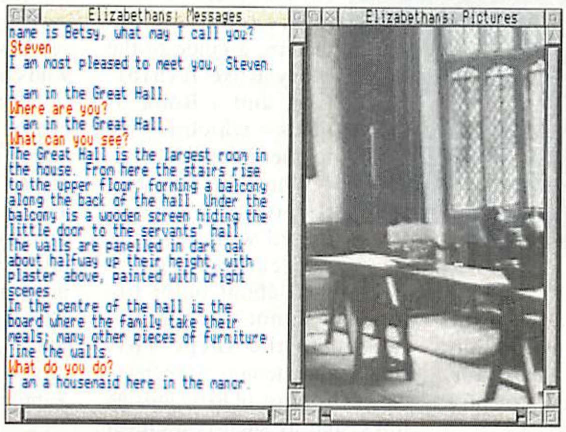
If a teacher is creating reports on a computer using either a database or a DTP package, and they are entering standard statements to describe the individual pupils achievements, then this program will make that task easier and quicker.



Example phrases

National Curriculum History

Geoff Preston explores Key Stage 2 History in the first of a two-part article



Chatting with Betsy in Landmarks: Elizabeth I

The National Curriculum Orders for History dictate that for Key Stage 2, pupils must study a core of six units, plus two out of three additional supplementary units. Of the many teachers I've spoken to regarding Key Stage 2, History appears to be the subject that has caused most difficulties when preparing lessons.

The most frequent complaint appears to be that the Orders are too prescriptive and demand a great deal of knowledge to be given to young pupils.

Some of the study programmes are over-optimistic – many children in the early stages of KS2 can barely get their little minds around the fact that today is now, the day before was yesterday and tomorrow has yet to come. Some of these topics require lively books, lots of pictures and plenty of enthusiasm from the teacher to keep the interest alive.

Using IT

The use of IT is one way to brighten up potentially dull lessons and some of the software from Longman, Sherston, ESM and others will certainly help. In certain cases it will provide a very significant amount of material for the teacher to cover a topic.

To refer to some of these software packages as 'programs' really doesn't do them justice, as many include a considerable amount of documentation which goes far beyond explaining how the program works.

In a couple of cases the teacher could begin with the pack as the main source of reference, and then use the information contained therein to locate, develop and provide further material for the topic.

As well as their obvious benefits within the classroom, many of these titles could also be used at home to enhance the work done at school. The software described here is not an exhaustive list of History software.

I've carefully waded through lots of material and picked a broad selection, taking into account the likely educational value as well as its appeal to young pupils. One other consideration is cost, which sadly is a major factor for primary schools.



Digging for artifacts in Shertson's Arcventure: Vikings

Thanks to all the software houses who provided material. Prices, which exclude VAT, are for primary site licence, except for those marked * which are single-user only, with site licences available at extra cost.

Quality clip art is included with three of Sherston's packs, but if you don't have these, there is some cheap clip art readily available. There wasn't room to include it in the article, but included on this month's cover disc are some samples of the excellent material produced by Anglia, SEMERC and Desktop Projects, as well as some of the support material by Sherston.

Unit 1 - Invaders and Settlers

- **Arcventure: Vikings (Sherston £31.95*)**
- **Arcventure: Romans (Sherston £31.95*)**

Arcventure: Vikings takes the user on an archaeological dig in York, where you must uncover as much as possible within 14 'days'. Once at the site, you choose where to dig and what tools to use, and at the end of each 'day' you return to the base where you can examine the day's finds. You can then call up textual information about these findings and write a daily report.

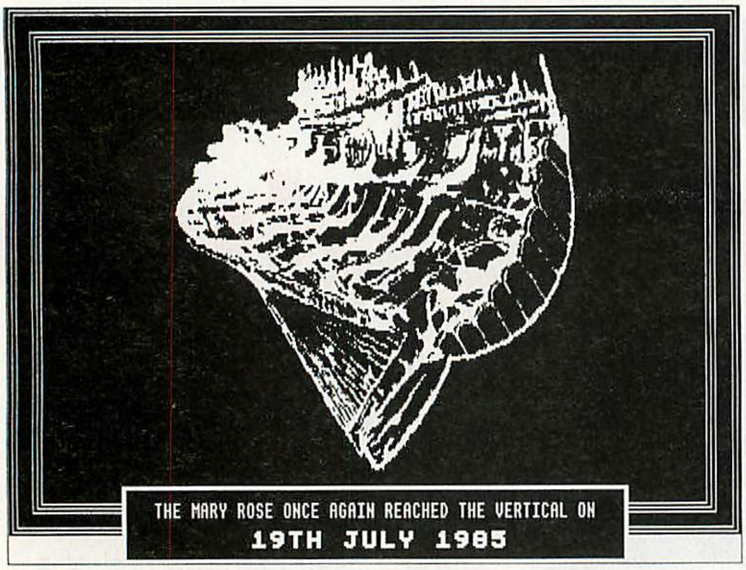
As well as the main program, which is on two discs, there are a couple of maps, a third disc filled with artwork and an excellent teachers' handbook giving all manner of additional information about the topic. Included is a book list and a list of places to visit, even going as far as giving a description of what you'll find when you get there.

Arcventure: Romans is also an archaeological dig in the same format as *Vikings*. A teacher could do a lot worse than reading the handbook and following up the leads provided, which includes cross-referencing to other subjects, a book list and places to visit. The discs also include some superb graphics which can be used in DTP work.

Vikings has just won the gold award for the best piece of primary software in this year's Educational Technology Awards. Well done Sherston!

- **Data 100 Series - Vikings (Appian Way £19.50)**
- **Data 100 Series - Roman Britain (Appian Way £19.50)**

To run any of the Data 100 series data discs, a master (program) disc must be purchased at a cost of £35.00, (plus £30.00 for a site licence) which includes a spiral bound A4 booklet giving an overview



Mary Rose from CSH is more than just a history program

of the program and a beginners guide.

Each data disc provides 100 documents covering all aspects of the topic, and includes a manual with sample exercises.

Text can be searched and compared, extracted and incorporated into a word processed script. The amount of information contained in each data disc is enormous, but the display is far from appealing.

In these days of Sonic the Super Mario Street Fightin, Formula One Hedgehog I can't imagine a lot of eight- or nine-year olds being motivated by page after page of yellow text on a blue background.

I wouldn't use this with anyone under 10 and even then, I doubt they would be able to motivate themselves to use it to the full. I think that *Data 100* is more appropriate as a Key Stage 3 tool, but *Vikings* and *Roman Britain* are really Key Stage 2 topics.

These two data discs will probably best be used as an information source for the teacher and will provide valuable material for lesson preparation.

Unit 2 - Tudors and Stuart Times

• Landmarks: Elizabeth I (BBC Software £24.00*)

Landmarks: Elizabeth I is probably best described as an interactive adventure/intelligent system. The pack comes with two A4 sized guides, one for the teacher and one for the pupil. The Pupil's guide includes simple instructions about using the program, a map of the area you are exploring and some tasks.

This program is a sharp contrast to *Arcventures* in that you must type your way through the program and read everything that is written. *Arcventures*, on the other hand, is mouse-driven and hence you can get by with less reading and almost no typing. The screen is divided into two parts – one for the textual conversation and the other for the graphics – all digitised from pictures or items of the times.

In simple terms, the program involves the user(s) having a 'conversation' with a guide – in this case a maid called Betsy. The user asks questions to try and find out more about life in the manor, and gives directions to move around the manor. The Teacher's guide gives additional information, including a bibliography and NC attainment targets.

• Mary Rose: The Anatomy of a Tudor Warship (CSH £39.95*)

This program is a simulation of the discovery, and subsequent recovery, of Henry VIII's flagship and many of the artefacts found around the site of the wreck. The program takes the user on an archaeological dive, during which time notes should be taken regarding depth, water pressure, air time and co-ordinates.

Finds are logged and can then be researched using the large amount of material supplied with the pack. This includes colour slides, colour postcards, an A3 picture, a guide to the Mary Rose Exhibition and a Book of Finds – which is vital for the simulation.

When the ship and its artefacts were re-united with daylight, we learned a great deal about tudor life in general, not just directly related to the ship. This simulation attempts to recreate the gathering of these missing links, and as such is a clever way to deliver this part of the curriculum.

Mary Rose is more than just a history program. If a primary class spent a week with this, they could cover a significant amount of NC mathematics and science, not to mention IT, as well as some technology and geography.

Finish that off with a visit to the exhibition and you've got a valuable experience that the children will remember for a long time.

• Time Lines: Tudors and Stuarts (Soft Teach £22.50)

Time Lines, by Soft Teach, costs between £90 and £180 for a site licence, depending on the type of school. An additional data disc, *Tudors and Stuarts*, provides a wealth of facts about events, both in this country and worldwide, which are viewed side by side on a horizontal timeline.

It's really fascinating to find out when events occurred within the context of other events, and children can readily see how long people lived and who could have met whom.

A great deal of information can be placed on the timeline which can be freely scrolled across the screen. Clicking on a piece of text or a graphic will display a card giving further details of that event. This program, I feel, is best used by children at the top of Key Stage 2. Next month we will cover Units 3 to 6 and Supplimentary Ubits.

Telephone numbers

Appian Way
091-373 1389

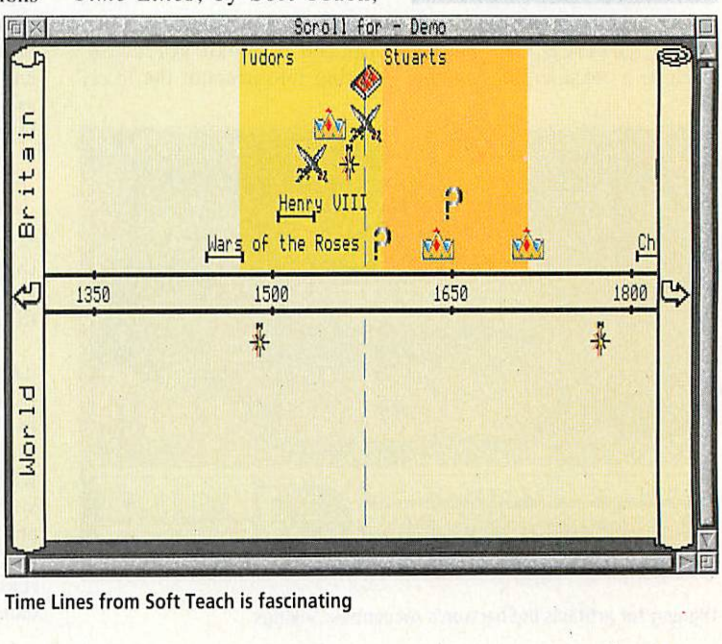
BBC/Longman
(0223) 425558

CSH
(0480) 67945

ESM
(0223) 65445

Sherston
(0666) 840433

Soft Teach
(0985) 40329



Time Lines from Soft Teach is fascinating



Video Recording Animations

Creating an animation with a program like *Noot* is great fun. The problem is that unless each pupil happens to have the correct computer and the correct software at home, Mum and Dad don't get the chance to see the results.

The answer is at hand, in the form of a special lead that will enable your Arc to output to a SCART-equipped VCR, thus enabling the animation to be video recorded.

The Acorn part number is AKA 77 and is available for £29.95 + carriage and VAT. Cambridgeshire Software House has obtained a number of them in anticipation, but you should state which computer you have when ordering. CSH is on (0480) 467945.

CD-Rom Filing system

Pep Associates has announced *CD-Net*, which will enable any Archimedes computer on an AUN network to access CD-Roms on other computers. The computers which have CD drives physically connected will act as file servers.

PEP claims that almost all CD-Roms will run over the network without serious speed degradation.

However, users should be aware that moving speech and animations around the network will slow down the whole system considerably.

CD-Net uses a software patch called a 'key', which enables a standard single-user CD-Rom to be read by several machines simultaneously. A *CD-Net* trial pack costing £39.95 includes a sample of keys enabling the network manager to test various discs over the network. Included are keys for the *World of Number* series, *Hutchinson's Multimedia Encyclopedia* and the Acorn Education Directory.

Full licences will have to be purchased from the CD-Rom publishers, who will send a network pack; this is basically a licence giving permission to use the CD on several machines, and a software key which is installed in the *CD-Net* application, along with all the other keys from other licence agreements.

Obtaining a licence and a key to upgrade a single-user CD to multi-user should cost between 2 and 3 times the original price of the CD.

The July issue of *Acorn User* will carry a major feature on networking and *CD-Net* will get a full review then. PEP Associates is on (0223) 212251.

Educational Courseware

River*: Water on the Move* and *Heart & Circulation* are two of a series of packs by ITAL, which are said to promote IT capability and support independent learning.

I have to say that I had very mixed feelings about this material. The students needed quite a lot of encouragement to get started, and once they had, I was not convinced that this was the best way of delivering the information.

The pack on rivers contains a general introduction and an A4 pack of sheets describing the exercises. The three discs contain an introduction, a couple of maps, a few text files, some excellent photographs and some exercises in the form of text and draw files.

The *Heart and Circulation* pack is similar, except that it contains some programs that do little other than provide the user with screen after screen of text, some of which concluded with an animation.

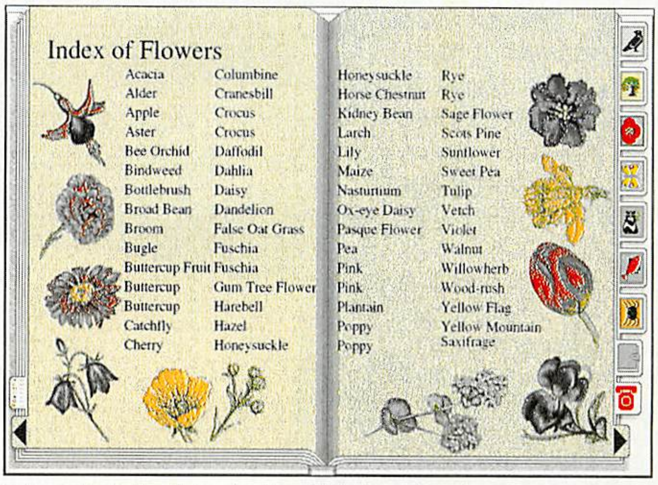
Some of the pictures seemed to have only a tenuous link with the main subject. At £39.99 inc VAT per pack, it seems rather expensive for what it is. ITAL is on (0422) 357832 .

Usbourne into CD Market

Main Multimedia and Usborne, the publishers of many books for younger readers, have released a CD entitled *Usborne Exploring Nature*: an adaptation of the Usborne Exploring Nature book. I recently inspected a pre-release version and it really is a superb piece of work.

The pictures are digitised from beautifully hand-drawn images (drawn on paper with a pencil) and take the form of a sort of reference book, which includes sections on birds, flowers, butterflies, trees, and much more.

I sincerely hope enough primary schools will soon have the equipment to run this software, but if you have a CD-Rom drive, this is certainly well worth buying. Hampshire Microtechnology Centre will be distributing this disc and they are on (0705) 378266.



Usborne Exploring Nature is a beautiful piece of work

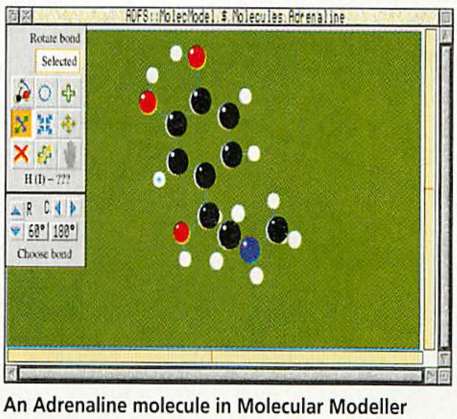
Molecular Modeller

Arachne Software has just completed a program which allows the user to build molecular structures and then view them, in stereoscopic 3D if required.

The pack comes in a plastic hinged box, containing the program disc, a structures disc, an A5 manual, an A5 tutorial guide and a pair of 3D glasses. Further discs containing ready made structures are available at £10. This program has clearly been very thoroughly researched and is an excellent modelling package. It is well presented and the manuals are both clear and concise.

I've always felt that Information Technology should be delivered in conjunction with other subjects, and it is with software such as this that Science and IT depart-ments will attack Curriculum targets of both subjects.

The cost of £39.95 inc VAT represents good value. Contact Arachne Software at Orchard Cottage, East Morden, Wareham, Dorset BH20 7DL.



An Adrenaline molecule in Molecular Modeller

Geoff Preston

Widen your horizons

Near laser quality A3 printing for 1/10th of the price of an A3 laser printer

The BJ-230 and RISC OS 3 Turbo DRIVERS

The BJ-230 is a black and white inkjet printer from Canon that handles a variety of paper sizes up to A3. It comes with a built-in 80 page sheet feeder and power supply. With a print density of 360dpi the print quality is hard to distinguish from a laser printer and better than any other competing black and white inkjet printer.
A sample A4 print out is available on request so you can make the comparison. And like all inkjet printers the BJ-230 is whisper quiet and both easy and cheap to maintain.

Price:
The A3 BJ-230:
£289 + £10 p&p + VAT (£351.32 incl.)
The A4 BJ-200:
£229 + £10 p&p + VAT (£280.82 incl.)

The BJ-230 is only suitable for use with RISC OS 3.1. Suitable for all models of Archimedes, but a minimum of 2 Mbytes of RAM is required.

Computer Concepts Ltd

The BJ-230 is supplied with Computer Concepts' super-fast TurboDriver printer drivers - printing and returning control on average between three and ten times faster than the standard Acorn drivers or the Ace PROdrivers. The RISC OS 3 TurboDriver works with !Printers, which means for example that it can handle rotated text and sprite printing. If also offers full Postscript style control over screen density, screen angle and screen type to achieve the best possible print quality.

We are so confident about our combination of Canon BJ printers with TurboDrivers that we offer a no quibble, money back guarantee.

REVIEWS

"This is probably the best inkjet printer yet. .. whether used on its own or with the excellent TurboDriver, the BJ-200 is a fast printer and the print quality is simply superb. A winner."

Acorn User

"The TurboDriver excels at its task of providing quick, high quality output.. ..in my opinion it is well worth the money and will more than pay for itself in terms of better productivity."

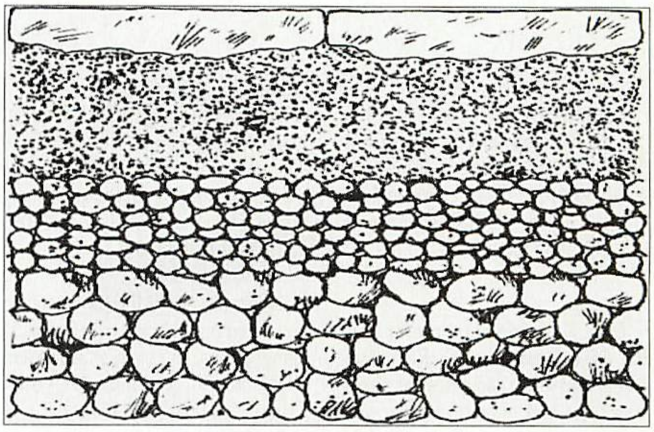
Acorn Computing

The package includes the BJ-230 printer with TurboDrivers software, a cable, sample A4 sheets of high quality inkjet paper.



E&OE Prices & descriptions are subject to change.

GADDESDEN PLACE HEMEL HEMPSTEAD HERTS HP2 6EX TEL.: 0442 63933 FAX. 0442 231632 EMAIL: Info@CConcepts.co.uk



The Final Frontier?

Colin Rouse looks at award-winning Frontier 2000 in the classroom

Frontier 2000, a multimedia package produced by Cambridgeshire Software House on CD-Rom, has broken new ground as a historically-based simulation. It won a well-deserved Gulbenkien award earlier in the year, and has proved an excellent History resource in my school.

Centred on the border country of England and Scotland, in the area around Carlisle, the user is invited to explore the various 'trails' on offer, finding locations and answering clues, with the help of a panel of experts.

With this package you can explore a variety of themes as diverse as The Roman Military, Mary Queen of Scots, Hadrian's Wall, Robert the Bruce, Transport, Railways, the Environment or even the 'Dreaded Reivers', to name but a few.

Frontier in use

My school, Cranbourne Primary in Berkshire, was lucky enough to be involved in Berkshire's CD-Rom Primary Pilot Project and so we were able to get to know *Frontier 2000* very well.

We were able to design a nine-week project called 'Brigands, Beliefs and Bonnie Prince Charlie', based around the trails, to take advantage of the accurate and up-to-date information contained within the program.

To maximise the program's effect, we needed to plan very carefully. We decided that we, as teachers, had to know the program's capabilities and limitations very thoroughly, so we 'played' with it at home, learning how to work our way through the trails, and how to overcome any problems the children may encounter.

This done, we sat down and produced a long-term plan of how we saw the topic progressing, which we then broke down into smaller units of study: our short-term plans.

We decided that the children would work in groups on a particular theme for a two-week block, and at the end of each fortnight each group would plan and perform a presentation and produce a display of their findings from their particular area of study.

To maximise the effect of this work, we had to ensure that the children had the requisite skills needed, and to this end, we prepared a week's block on revising and developing the children's research skills, presentation and handwriting skills, developing geographical skills and raising children's awareness of the location of Carlisle and the area round it.

We also taught the children how to use the hardware and software, through the use of child-centred guides which I wrote, and looked at the types of questions they would find most beneficial to ask.

The children were then split into groups of approximately eight , and given a disc to save work on, an A2 document case to store their work in and a 'children's help pack'.

This booklet, one for each trail, contained all the information the children needed to complete the fortnight's unit of work. The booklet included maps, diagrams, plans, pictures, Professor Hardwick's history trail and any other source material, all of which came from *Frontier 2000*'s vast database.

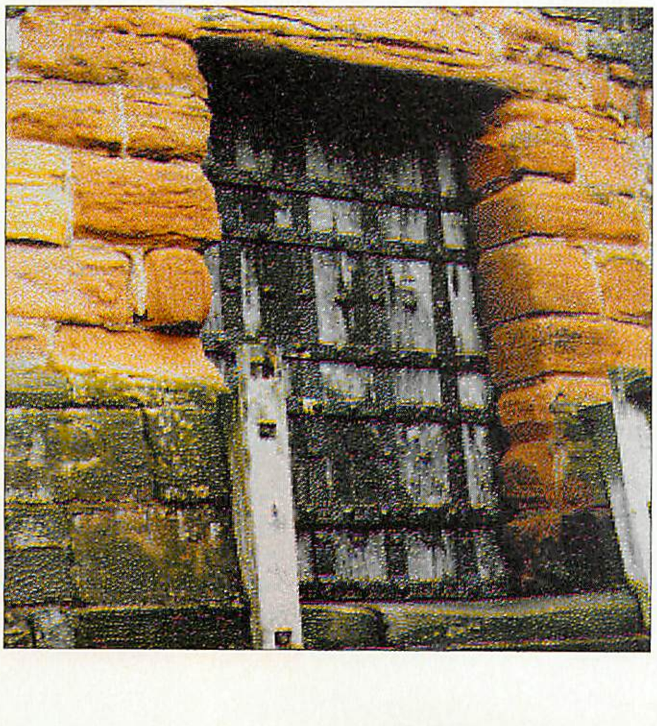
Also included was a work page, which indicated to the children what they had to discover in their two-week study. For example, the group looking at the Reivers had to find out about them, where they lived, Reiver surnames, Reiver's towers and much more, encompassing a whole range of curriculum areas.

Guidance was also given as to what was expected of the children during their presentations. The most important source of information, however, was the program itself.

The children had to follow a trail, finding locations through a short description, or by using co-ordinate references. They had to approach 'experts' for information and interpret that information to gain another clue.

The children found this extremely exciting, especially when they had video clips to help them, motivating them to find out more. The work produced and standard of the presentations were well thought out and informative.

So, Frontier 2000 is an excellent program to use, which will have many uses in the classroom in a variety of areas. You may even find out who the Reivers were...



Product details

Product: Frontier 2000
Supplier: CSH
Tel: (0480) 467945
Price: £79.95 + VAT for disc & manual, £199.95 + VAT with resource pack



FREE ADS

• Lemmings orig £12. Dreadnoughts v1.00 £10. Elite Gold Edition £20. Arcade Soccer £5. Waterloo £10. Chocks Compendium £18. Conqueror £7. Joystick adaptor £12. Tel: (0433) 631482

• BBC B, green screen monitor, 80T drive, Ram disc, 32K Ram card, Z80 processor, some software, magazines, joystick + more. Urgent sale required. Offers? Tel: (0407) 810184

• A4 HD portable, trackerball, complete with manuals and original packaging, £1595. Tel: (0254) 771656

• Archimedes 310, 4Mb, Arm3, CC Rom/Ram board, 20Mb HD, Prog Ref Manuals, ANSI C v3, Games, PD, Risc User mags, books, £650. Tel: (0258) 480739

• To sell: A540, Eizo monitor, NEC printer and lots of programs. Price idea £2500. Fax +(0)851 751813 (Germany)

• A3000, 4Mb Ram, IDE drive, colour monitor, plus software, Star 24-pin printer, £650 ono. Tel: 021-351 2393

• Wanted: 6502 2nd processor for BBC B. For sale: Prestel, will sell or swop for anything useful. Tel: (0978) 820214 eves

• A310 upgraded to A5000 spec, loads of software, MIDI for notation/scorewriting, LQ printer, boxed as new, excellent condition, £1295. Can deliver. Tel: (0753) 820526

• Master Smart cartridge, AMX Superart + mouse, Last Ninja 2, Stig of the Dump, Micro Maths, Search & Rescue, Island Adventure, Garland Games, Twin joysticks, £120 or will split. Tel: (0452) 760408 after 5pm

• A5000 4Mb multisync monitor, serial port RTFM joystick, MkIII CC 256 greyscale handscanner plus a wealth of software, all in mint condition, only light home use, £1100. Tel: (0236) 821566

• 2 BBC Bs £85 each. Twin 40track s/s drive £30. BBC+ 128K £120. 40/80T d/s drive £35. Citizen LSP10 printer £35. Sharp IQ7000 £100. Tel: (0709) 814010

• A5000LC, original packaging, multiscan monitor, 40Mb HD, 24 AU magazines + cover discs, 1 year old immaculate condition (used only for GCSE project), delivered, £1099 ono. Tel: (0504) 43071

• Acorn A4 4/60Mb HD notebook, unwanted prize, brand new inc packaging, books, soft case, PC Emulator (RRP £1700 + emulator) only £1000. Tel: 061-737 4368

• Serial Port joystick interface v2.02 boxed as new inc QuickJoy Stick £25. Quest tracker ball Arc version hardly used £20. Tel: (0962) 880250 eves

• 3D Construction Kit £20. Bug Hunter with Moondash £7.50. Archimedes and A3000 compatible. Write to R Connett, Brook Green Cottage, Well Street, Exeter EX4 6QD

• InterWord £15. Silicon Vision's SolidCad £20. AMX mouse with SuperArt £20. 10 cassettes, 4 blank, 6 games £5. BBC B versions with manuals. Tel: (0245) 361198

• Arc 440, 20Mb h/drive, Philips hi-res monitor, SCSI, Brainsoft multi I/O, Acorn I/O, CC bat/bk Rom podule with 128K Ram, Arm3, £950. Tel: (0932) 783252

• Archimedes 440, colour monitor, CPA80 dot matrix printer, mouse, manuals, Acornsoft ANSI C, PC Emulator, hardly used, £945. Tel: (0908) 371144 ext 335

• A3000 2Mb Ram upgrade (Watford) £20. 4Mb upgrade (Morley) £70 in full working order. Tel: (0634) 201470

• A5000 32MHz (17 Mips), 4Mb Ram, 40Mb hard disc, multisync monitor, Risc OS 3.11. Excellent condition, with manuals, £1400. Tel: 061-225 5555 ext 162

• A3000 with stereo colour monitor and 2Mb upgrade, monitor stand + some software, as new and in excellent condition, £420. Tel: (0494) 875670

• BBC B, colour monitor, disc drive, Interword Rom, 32K shadow Ram, Spell Rom, Quest Paint, Olivetti rinter, mouse, games, manuals, £160 ono. Tel: 061-427 1443

• BBC B DFS Cumana disc drive, Cub colour monitor with dual plinth, User Guide + books, £150. Tel: (0843) 862737

• A3000, 100Mb drive 16-bit card, 2Mb, screen, 5.25in drive, 3.5in drive in a PRES system housing, loads of games/software, Philips colour monitor, £1200. Tel: (0903) 767167

• Games: Enter the Realm, Swiv, Conqueror, Drop Ship, Quest for Gold, Speech, Powerband, Saloon Cars Deluxe, X-Fire, Galactic Dan, all £10. Tel: (0923) 779191

• A3010 2Mb monitor and software, Risc OS 3.11. Only four months old, as new, still under warranty, perfect upgrade from an A3000, £700. Tel: (0287) 651574

• A420/1 upgraded to A440/1, 42Mb IDE hard drive, 4Mb Ram, Philip colour monitor, full learning curve, WP, DTP, Paint, Draw, Edit, Genesis etc, £900. Tel: (0895) 632058

• Grooves CD-Rom, high quality, digitally recorded, music clips for use in multimedia productions, boxed and unused, £50 ono. Tel: (0992) 550494

• Gods, Aldebaran, Powerband, Chopper Force, Pacmanis, E-Type, £7-15 or £55 the lot. Tel: (0920) 465053 eves

• Software advice needed for Acorn A3000, i.e. word processing, drawing/graphics facility, games (children 10yrs). Tel: 061-230 6822

• 60Mb 2.5in Conner hard drive suitable for internal IDE interface in A30xx machine, £120 inc. postage. Also, wanted: multisync monitor. Tel: (0253) 691074

• Acorn User magazines, June 1984 to October 1993, £30. Tel: 081-360 7732

• Master 128, dual 40/80 Watford drive in plinth, Panasonic 1081 printer, Interword Rom plus some software, £225 ono. Tel: (0202) 699326

• A3000 Risc OS 3.1 with more software then you can get your head around in a lifetime, £330. Tel: (0269) 851044

• Master 128, Cumana 40/80 disc drive with software and manuals with colour monitor, £165 ono. Tel: (0474) 853534

• Impression v2.19 £115, Compression £25. Rhapsody 2 £35. Tracker £20. Tel: (0328) 730116

• A310 and Acorn colour monitor with Risc OS, manuals, PC emulator, software and extra 5.25in drive, £500. Tel: 081-527 8787 after 6pm

• Panasonix KX-P1124 printer in PWO complete with instruction book and boxed. Spare ribbons (used), some fanfold paper, £100 buyer collects or £10 courier. Tel: (0428) 713326

• Archimedes 410, 4Mb Ram, 40Mb hard disc, Risc OS 3, Arm3, colour monitor, PC Emulator, Pipedream 3, games, Acorn User/Risc User magazines/discs, £800 ono. Tel: (0524) 68354

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• Due to the huge backlog of free ads, there is no coupon this month. Please do not send in any ads until the coupon reappears: normal service will be resumed as soon as possible. Thank you.

NEXT MONTH IN ACORN USER

Show Round-up

We take an in-depth look at the new hardware and software released at the *Acorn User* Spring Show. As this year's most important Acorn date until the end of the year, many companies will be looking to launch new products; this is obvious if you read our stand-by-stand guide on page 34.

If you are looking to upgrade your machine or extend your horizons, then don't miss our guide. We'll keep you up-to-date with any surprise releases, and will give you the low-down on the hottest new products.

PLUS

Photo CD

With the imminent availability of 24-bit graphics cards, we look at Acorn's long-awaited Photo CD software, and evaluate it in the field.

CD-Rom drives

CD-Roms are no longer esoteric, they are becoming an integral and vital part of the Acorn scene. We sift through the best drives available.

Second-hand machines

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Prophet

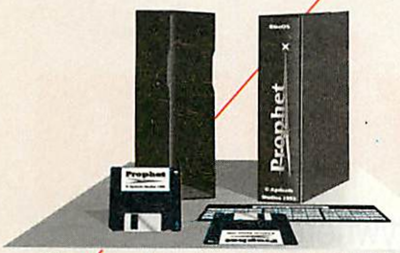
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Showing off

Graphical demos crop up everywhere, and in this new series Mark Hobson reveals the secrets behind the scrolling text and bouncing starfields

Demos are strange programs. They have no purpose except to impress the viewer, but useless as they are, I have yet to meet someone who hasn't got one hiding away on his hard disc, or somewhere in his disc box.

The typical demo contains features such as scrolling messages, starfields and bouncing balls. Even as demos become more complex, with 3D vector graphics and vector-balls, they are still simply a collection of graphical routines that are combined to produce the final result.

The authors try to squeeze as much processor power as possible out of the machine – this enables even more things to happen in their demos so that the result seems almost impossible.

This complexity that surrounds demos often leads most people to collect and watch them, but not necessarily write them.

Modular system

In this series I will present a modular system to create demos. Each month I will provide the necessary code to create a module for the next part of the demo, including features such as scrolling text, stars, music, reflections and so on, all to produce the final demo.

If you want to be able to add routines you must be able to write in Arm code, but even if you can't program, you can alter parameters and options to create your own personalised demo.

The beauty of the modular system is that each routine can be written and tested separately from the rest of the demo. Each module is then compiled to produce a module file, and is subsequently added to the others to produce the final result.

The user can choose which modules are needed, customise them and alter their variables if necessary. In this first article we will be looking at how the system works and implementing the scrolltext module.

Running the demo

On the disc you will find a directory called *Modules*, which contains further sub-directories for each module installed so far. Each of these sub-directories contains the various files which are needed to create that specific module.

Every module needs a Basic program called *Source*. This is the program which compiles the module together, and saves the final code and data, in the same directory, as a data file called *Module*. Any resources that the module needs, such as sprites or tables, can be found in the module's directory.

These module data files can be linked to run simultaneously as a demo by using the *Compile* program. This takes a demo-script text file and installs the stated modules. The demo-script file language is very simple, so simple in fact that there is currently only one command with the syntax:

```
install:<module name>
```

Anything else is ignored. All the modules specified are loaded into memory and a short piece of conditional Arm code is assembled. The order in which the modules are installed is the order that they are called up every frame.

This final product of running *Compile* can be saved to disc as a run-only demo (with file type Utility), and it can also be executed straight away by double-clicking on it. The name of this file on the cover disc is Demo. Run it to show the scrolltext created by this month's installment.

Before the module is compiled, there are usually several variables in the *Source* program that can be altered to change its output, but once it has been compiled, these are fixed.

File formats

The format of a module file is fairly straightforward. The first three words must be as follows:

```
+0 = offset to initalisation routine
+4 = offset to code to be called
every frame
+8 = offset to finalisation routine
```

The offset is defined as a relative address from the start of the module. If the offset equals zero, the corresponding code is not called. The rest of the module is made up of code and data.

When a demo is to be compiled, it always needs a module called *Swop*. This module provides the code to swop between two screen banks for smooth animation. It also clears the current screen bank and gets the new screen address. This address is held in R12 when the modules are called up every frame, so that

Screen sprite

06	06	06	06	06	06	06	06
04	04	04	04	04	04	04	04
06	06	06	06	06	06	06	06
04	04	04	04	04	04	04	04
06	06	06	06	06	06	06	06
04	04	04	04	04	04	04	04
06	06	06	06	06	06	06	06
04	04	04	04	04	04	04	04

AND

Sprite mask

FF	FF	00	00	00	FF	FF	FF
FF	00	00	FF	00	00	FF	FF
FF	00	00	FF	00	00	FF	FF
FF	00	00	00	00	00	FF	FF
FF	00	00	FF	00	00	FF	FF
FF	00	00	FF	00	00	FF	FF
FF	00	00	FF	00	00	FF	FF
FF	FF	FF	FF	FF	FF	FF	FF

=

06	06	00	00	00	06	06	06
04	00	00	04	00	00	04	04
06	00	00	06	00	00	06	06
04	00	00	00	00	00	04	04
06	00	00	06	00	00	06	06
04	00	00	04	00	00	04	04
06	00	00	06	00	00	06	06
04	04	04	04	04	04	04	04

06	06	00	00	00	06	06	06
04	00	00	04	00	00	04	04
06	00	00	06	00	00	06	06
04	00	00	00	00	00	04	04
06	00	00	06	00	00	06	06
04	00	00	04	00	00	04	04
06	00	00	06	00	00	06	06
04	04	04	04	04	04	04	04

OR

Actual sprite

00	00	01	01	01	00	00	00
00	01	01	00	01	01	00	00
00	01	01	00	01	01	00	00
00	01	01	01	01	01	00	00
00	01	01	00	01	01	00	00
00	01	01	00	01	01	00	00
00	01	01	00	01	01	00	00
00	00	00	00	00	00	00	00

=

Screen and sprite

06	06	01	01	01	06	06	06
04	01	01	04	01	01	04	04
06	01	01	06	01	01	06	06
04	01	01	01	01	01	04	04
06	01	01	06	01	01	06	06
04	01	01	04	01	01	04	04
06	01	01	06	01	01	06	06
04	04	04	04	04	04	04	04

Figure 1: Using sprite masks to superimpose letters over the screen

they can write directly to the screen memory.

There are only a few guidelines which the modules must follow: they must be written so that they can be relocatable, and they must preserve the registers on exit.

Sprite files

When a module that uses a sprite file is compiled, it can convert the sprites into an easier format by using the function FNconvert. This function is found in the main directory and is used as a Basic library by each of the modules during compilation.

The function takes the sprite file and creates raw mode 13 screen data for each sprite in the file. This is stored at an address specified by the module. The function is called as follows:

```
FNconvert(module_name$,data_
address%)
```

It returns the following values depending on the outcome:

```
-1 = sprite file was not found
0 = sprites converted OK
>0 = number of sprites that were not converted because their width was not divisible by 4
```

The sprites are converted because the raw data is usually easier and faster to deal with than the standard sprite file format.

Triggers

Most demos use the scrolltext to introduce the different parts of the demo, and the scrolltext module has been designed to cater for this.

Within the scrolltext, special 'trigger' characters can be inserted which do not actually appear on the screen, but set a corresponding bit in a flag. This flag is held in R11 and can be checked by any module to see if it has been triggered.

The trigger characters can be any lower case letter, and the bits are set as follows:

```
R11 =
%000000abcdefghijklmnopqrstuvwxyz
where a bit is set to 1 when that
character appears.
```

It is up to the module to decide whether it has been triggered yet and which letter triggers it off. In the source programs that will follow in this series, I have defined two variables to accommodate for this: trigger$ is the special character that triggers the routine, and trigger% is TRUE or FALSE, depending on whether the code to check for the trigger is to be included

These same trigger characters can also be used to change the waveform used by the scrolltext – this will be covered in more detail later.

Scrolltext module

Most people think that writing a scrolltext routine must be difficult, but this is not necessarily the case. There are three main problems to overcome when writing the code:

- Plotting the sprites, including those only partly on the screen
- Keeping track of the position in the text and taking care of trigger characters
- Changing the position of the letters to follow different waveforms

Firstly, let's deal with the problem of plotting a letter. I have decided to use a 16x16 pixel font for the scrolltext which I have found to be a reasonable size.

Considering that we are going to plot about 20 letters onto the screen every frame, the plotting routine has to be fast. For this speed, it is necessary that the screen address that we plot at is word-aligned (divisible by four), otherwise we would have to deal with complicated shifts or use very slow LDRB and STRB instructions.

Another important aspect of sprite plotting is masks. A mask allows parts of a sprite to be transparent, and for this we need another sprite containing the mask data.

The mask data is a similar sprite containing black and white pixels, where white indicates a corresponding transparent pixel. The mask sprites are created automatically by the FNconvert function and are stored directly after each mask-containing sprite.

Because the hexadecimal number for the colour white is &FF, we can use this data to AND with the screen data. The sprite data can then be ORed into the result to return, back to the screen, what is to be written (see figure 1).

We have to repeat this process four times for each word in the line. Therefore we can replace the LDR and STR instructions with LDMs and STMs respectively.

Now we can plot one line and we need to repeat this 16 times for the whole sprite. We could set a counter to 16 and decrement it every loop until it reaches zero, but this is too slow. What we can do though, is actually assemble the code the necessary number of times, in this case, 16. This method may take up more memory, but it executes faster.



Build up your own demo with Mark Hobson's modules

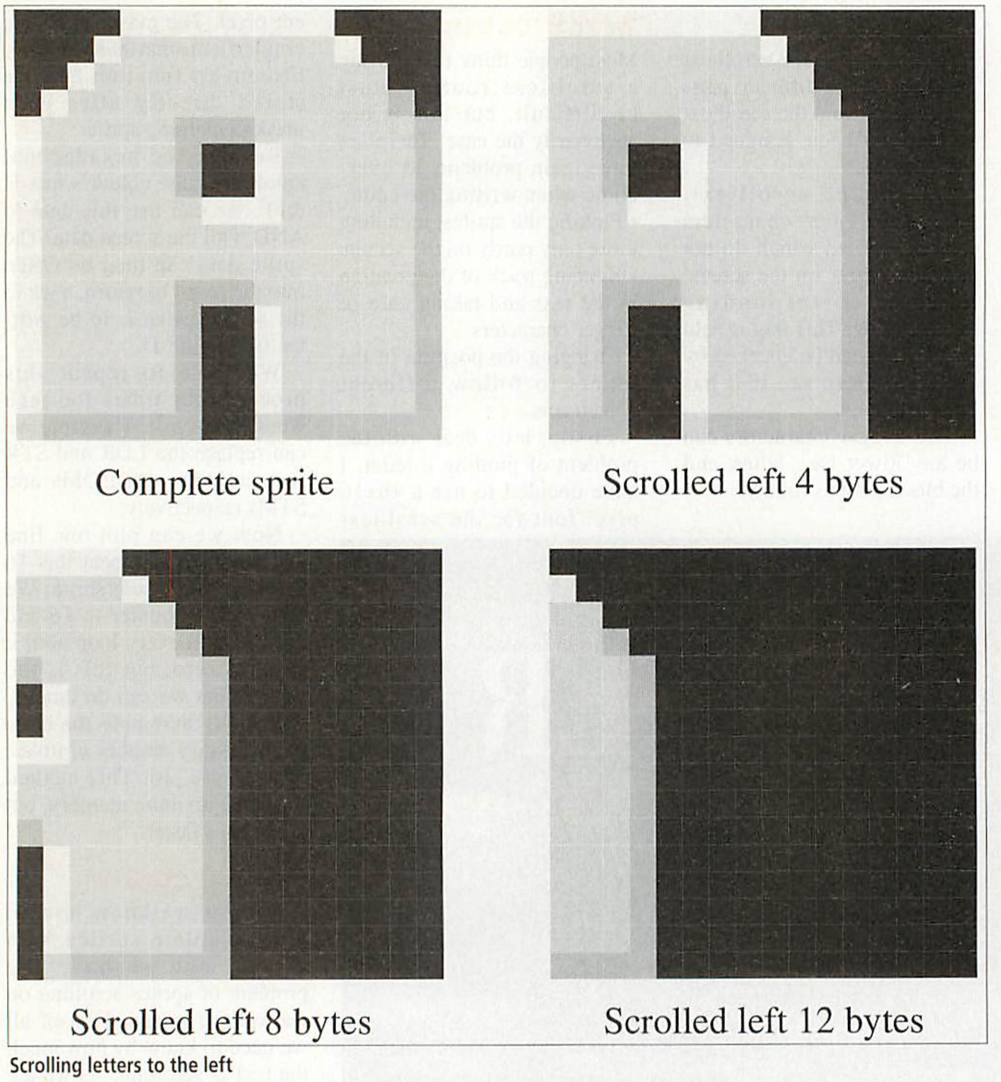
Off the screen

So now we know how to plot complete sprites with masks, but we have the problem of sprites scrolling on and off the screen. First of all we need to know by how much the text is scrolling. As we are plotting each letter at a word-aligned address, then it is logical that we should scroll by a word (4 pixels) every frame.

Consider that we have plotted a letter on the left-hand edge of the screen, and we want it to scroll by one word to the left. The actual outcome would be that we are only displaying the three right-hand words in each row, instead of all four. Next frame, it would be the two right-hand words and so on (see figure 2).

So what we need is a variation of the previous sprite-plotting routine that plots only part of the sprite. Now we have three routines to plot letters: one to plot a whole letter, another to plot a letter scrolling off the screen and one to plot a letter scrolling on.

These routines then have to be called correctly to plot the scrolltext onto the screen. For this we need two main variables: the offset that the left-hand letter on the screen is from the start of the text data,



Scrolling letters to the left

and the amount that each letter is to be offset from its normal position.

So for each letter plotted onto the screen, the correct routine is called to plot it at an offset of:
(letter_number*20)-letter_offset
where letter_number is 0 for the left-hand letter, incrementing up to 16 for the right-hand letter, and letter_offset is the offset in bytes that each letter should be scrolled to the left (ranging from 0 to 16).

Every frame, letter_offset is incremented by 4 until it reaches 20, which means that the text has scrolled the width of a letter, 16 bytes of letter plus 4 bytes space. So now we can reset this variable to zero, and move one character forward through the scrolltext.

When the main loop is plotting each letter, there are two main conditions that have to be checked for:

- Has the pointer to the letter exceeded the length of the scrolltext?
- Is the current letter a trigger character?

When the pointer exceeds the length of the scrolltext data, the length is subtracted from the pointer to effectively 'wrap' around to the start. After the pointer has been validated, the corresponding byte in the scrolltext data is checked to see whether it is a trigger character ('a' to 'z'). If it is, the appropriate bit is set in the trigger flag and that character is ignored. The trigger flag is always preserved so that it is not reset every time the routine is called.

Wavey text

So far we have assumed that the y-position of each letter in the text remains constant. This is fine if you want a straight scrolltext, but many demos include scrolltexts that flow around the screen following interesting waveforms.

To implement this feature is actually quite simple. All we need is a table of y-position offsets, and a base offset from the start of the data.

What happens is that for each letter, a y-position is read from the table and the new screen position is calculated, the offset being incremented as the scrolltext is plotted from left to right. Every frame the base offset is incremented, until it reaches the end, where it is reset to the start of the table.

All we need to do now is create the waveform data. This could be done as a series of loops creating different waves, but I decided to create a waveform script file which the program processes.

This script file contains the necessary information to create each table, which the source program does before compiling the module. Each waveform is described as a series of the following commands in a text file. Commands prefixed with an asterix are optional.

id: = the trigger character that activates this waveform, contained in quotes
length: = the number of entries that this waveform table requires
*var: = the inital value of a variable that can be used within the final equation (see later)
*inc: = the amount by which the variable increments each entry
y: = an equation returning the y-position for the letter, determined as the number of lines from the top of the screen. This equation can contain functions such as SIN, COS, DEG, RAD and so on. Also, it can reference the variable var, initialised with the var: and inc: commands (see above)

The following example shows how to implement a simple sine-wave:

```
id:="a"
length:=17*4
var:=0
inc:=360/length
y:=80+(74*SIN(RAD(var)))
```

The lines above define the following: associate waveform with trigger character 'a'; set length of scrolltext to the width of 4 screens; initialise variable var to 0 (var will hold the angle used in the sine wave calculation); set increment amount to 360/length (note use of 'length'); and finally set the equation to:

```
y=y_centre+(radius*SIN(angle))
```

Several waveforms can be defined within the *Waveform* text file, and the actual scrolltext can activate them by inserting their trigger character.

There is also a program called TryWare in the Scroll text module's directory to display waveforms on screen. Simply run this, type in the waveform equations and press RETURN to see the resulting waveform shape.

We have now implemented all the necessary features in our scrolltext module to change the waveform and trigger other routines. Next month, we will be adding starfields and reflections to our demo, but until then, happy scrolling!

ArtWorks

Version 1.5

The latest version now includes full support for 24-bit sprites, making it the first Acorn graphics package to support full colour sprites. It is also compatible with the new graphics filter system used by Impression and includes a filter for TIFF files (the industry standard format). ArtWorks now includes the ability to print and separate these full colour images. Finally 1.5 is also a new 'fast load' version of ArtWorks - this is an advantage to all users but particularly useful for relatively slow filing systems such as CD or networks.

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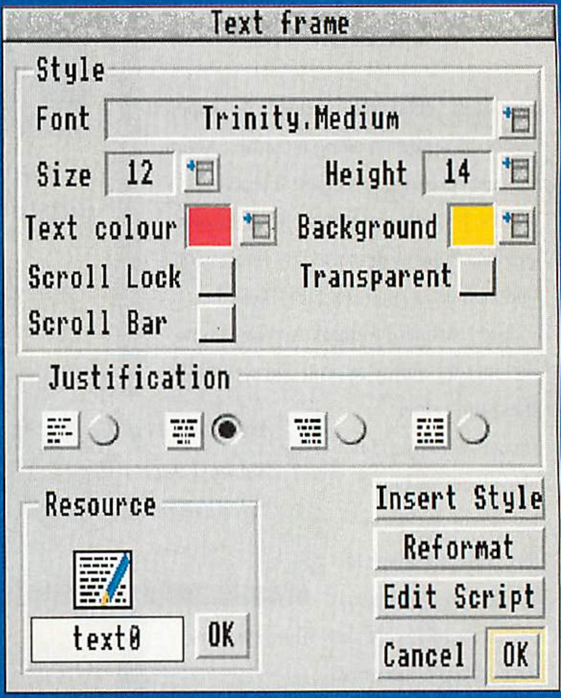
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Genesis, which for many years has been the leading multimedia authoring package on the Archimedes, has taken a large step forwards with the announcement of two new versions: Genesis Project and Genesis Professional. Both new versions include a completely revised user interface designed to be both easy to master for the novice user, yet quick and powerful for the Genesis expert.

The Genesis menu structure has been simplified by using dialogue boxes to alter the style of frames and pages. Application creation and editing has been eased by the introduction of 'Object Linking and Embedding'. 'OLE' allows data to be transferred quickly and smoothly between Genesis and editors such as Draw, Euclid and Artworks.

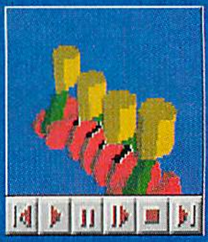
Genesis now supports Artworks, Replay, Windows .BMP and .WAV files. Control buttons can be added automatically to Euclid, Film, Replay and Sound frames. It now incorporates a 24 bit colour model and can handle the new 15 and 24 bit Sprites. A turbo loading system significantly increases the speed at which pages open.



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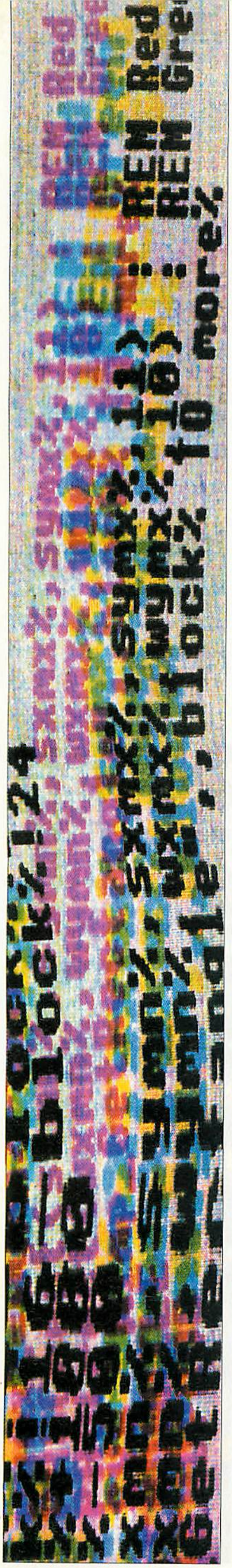
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Back to Basics

In part nine of his series on Basic programming, Mark Moxon finishes off functions and procedures, and takes a look at the thorny problem of recursion

Last month we had a look at declaring local variables and found out why it is important to declare all the variables you invent for a certain procedure as local. Look on it as a precautionary measure; that way if you add your procedure to someone else's program – or even a program you wrote earlier – you don't have problematic variable clashes.

However, as we also saw, variables passed to routines are always local, so if we have a procedure defined as follows:

```
DEF PROCdouble(num)
num=num*2
ENDPROC
```

you would have thought it would double the value in the variable passed to the procedure.

Go on, try it: it doesn't work. This is because every procedure automatically performs a LOCAL command on all the variables in the DEF line, so when the program comes to ENDPROC, the old value of num will be restored.

However, there is a way round this. All you have to do is include the word RETURN before any variables in the definition you want to be able to alter. So, to make our procedure alter the value of num and actually double it, we should change the definition to this:

```
DEF PROCdouble(RETURN num)
num=num*2
ENDPROC
```

This version doubles the value of num, and prevents the old value of num being restored. There is one important point to be made here: when you call the procedure, the argument passed *must* be a variable, otherwise it doesn't make sense.

If you passed a number, for example three, then when the procedure ends it makes no sense to say 'and make sure the value of the argument remains changed', as it is a constant anyway.

Passing arrays

Remember arrays, which we briefly talked about in the January issue? Well, just as you can pass numeric and string variables to procedures and functions, so you can pass arrays.

Let's take an example. In Listing 1 two arrays are set up in the procedure PROCinitialise, one containing first names – firstname$() – and the other surnames – surname$.

The function FNfullname then takes these two arrays as argument, and a number entered by you, and prints out the corresponding full name, complete with space between the names. Not that momentous, but it's easy to see how this would fit into an address book or simple database.

Have a look at the call to FNfullname, and the function definition. In both cases the first two variables passed have a couple of brackets after them, like so: firstname$() in the call, and f$() in the definition.

The brackets simply denote that an array is being passed, and we can assume when we are inside the function that an array has been created with the same dimensions as the argument passed.

The first line of the function simply checks that the number passed to the program is not less than one, or greater than the number of elements in the array. The expression DIM(f$(),1) simply returns the number of elements in the array f$().

If n is out of range, then the function returns the string 'Bad number', otherwise it takes the firstname and the surname from the array and returns the combination of the two as the result.

And, because we are using the DIM(f$(),1) function, we can rest assured that if we decide to extend the size of firstname$ to, say, 10 names, then FNfullname will still work correctly.

One final important point about passing arrays to procedures is that they are never local: arrays always act as if there was a RETURN in front if them in the procedure or function definition. So beware: if you pass an array to a routine, it can be changed, even without a RETURN.

Recursion

Recursion is a really wild concept to try to get your head round. It basically involves a routine calling upon itself at some stage: scary if you think about it. How can the definition of a procedure contain somewhere in it a call to itself: a real chicken and egg situation, if ever I saw one.

The secret to understanding recursion is simple, but let's take an example first. Listing 2 contains a recursive function which generates anagrams, though not necessarily real ones, from a word you enter.

It simply displays every anagram possible from any word you enter, and also the total number of anagrams

possible. If we had a spelling checker to hand, we could check any anagrams found against that to create a real anagram generator.

Have a look at PROCanagram: it looks rather daunting at first, but bear with the explanation and it unravels itself rather neatly.

PROCanagram takes two arguments, c1$ and s$, and prints out anagrams of s$, with the string c1$ appended to the front. So if we call the procedure like this:

```
PROCanagram("",word$)
```

then the program will print out anagrams of word$.

So why go through all this strange string appending? Well, the answer is so we can use recursion. Imagine we want to print all anagrams of a word. One way to do it is to take each letter of the word in turn, remove it from the word, and start the anagram with that letter. Then we simply need to work out all the anagrams of the word minus that letter, and write them down, putting the missing letter at the start of the anagram.

An example

For example, for the word 'TWO', we would take out 'T' and write that down, followed by all the anagrams of 'WO', giving us 'TWO' and 'TOW'. Next we remove 'W' and find all the anagrams of 'TO', giving 'WTO' and 'WOT'. Finally, remove 'O' to give 'OTW' and 'OWT': now we've worked out all the anagrams of 'TWO'.

Now take a look at PROCanagram. The string passed in c1$ is the equivalent of the letters we have pulled out, and s$ is the rest of the word.

So, if s$ has more than one character, we step through it using the FOR-NEXT loop, plucking out each character in turn into c2$, and putting the rest of the word into rest$. Then we say to the program 'find all the anagrams of rest$ and print them with the removed letters tagged on the front', which equates to the call:

```
PROCanagram(c1$+c2$,rest$)
```

Assuming we have written PROCanagram correctly, this code will do what we want. The only case which needs to be dealt with is when s$ contains only one character, which means that we have our anagram, as there is only one permutation of one character. To print the anagram, we just use:

```
PRINT c1$+s$
```

and that's all there is to it.

So the secret to understanding recursion is to assume that your procedure works, and make sure that the last case works – in this example, when there is only one character in the string. If that works, and you've written the procedure correctly, recursion becomes one of the most powerful tools in your arsenal.

That's all for this month: next month we'll be moving on to handling data from within your programs.

Listing 1

```
REM >Listing1
:
ON ERROR REPORT:PRINT " at line ";ERL/10:END
MODE 0
PROCinitialise
PRINT "Press Esc to exit."
REPEAT
INPUT "Input a number between 1 and 5 ";num
PRINT FNfullname(firstname$(),surname$(),num)
UNTIL FALSE
END
:
DEF PROCinitialise
DIM firstname$(5),surname$(5)
firstname$(1)="John":surname$(1)="Smith"
firstname$(2)="Arthur":surname$(2)="Guinness"
firstname$(3)="Joshua":surname$(3)="Tetley"
firstname$(4)="Peter":surname$(4)="Dominic"
firstname$(5)="Augustus":surname$(5)="Barnet"
ENDPROC
:
DEF FNfullname(f$(),s$(),n)
IF n<1 OR n>DIM(f$(),1) THEN ="Bad Number"
=f$(n)+" "+s$(n)
```

Listing 2

```
REM >Listing2
:
ON ERROR REPORT:PRINT " at line ";ERL/10:END
MODE 0
INPUT "Please enter a word ";word$
num=0
PROCanagram("",word$)
PRINT "Number found ";num
END
:
DEF PROCanagram(c1$,s$)
LOCAL c2$,loop,rest$
CASE TRUE OF
 WHEN LEN(s$)>1
  FOR loop=1 TO LEN(s$)
   c2$=MID$(s$,loop,1)
   rest$=LEFT$(s$,loop-1)+MID$(s$,loop+1)
   PROCanagram(c1$+c2$,rest$)
  NEXT loop
 WHEN LEN(s$)=1
  PRINT c1$+s$
  num=num+1
ENDCASE
ENDPROC
```



Font Directory is the only font management application which contains a dedicated font filing system. All other programs work by simply swapping whole directories or moving font files from one folder into another.

Although writing and desiging a font filing system has taken more time and effort, it offers some additional benefits...

- **More flexibility** – Individual fonts (not just families or directories) can be installed and removed. You can also organise your fonts into categories, families and weights.
- **Saves space** – By using directories which only take up 2K, the space used by your font collection can be reduced.
- **Kind to discs** – Unlike some systems, font availability is controlled in memory and not by moving font files on the disc. This saves a lot of unnecessary disc access and speeds up the availability of your fonts.
- **No limits** – Well, not exactly... you can store over 5900 font families! And you can make many of these fonts available at any one time – typically over 700 font families.
- **Network friendly** – A special version of the software is available for network users. This allows each station to have a personal view of a central collection of fonts stored on a file server.
- **Star commands** – If required, star commands are provided to allow you to specify which fonts should be made available.
- **RISC OS compliant** – It works with both RISC OS 2 & 3 and is desktop compliant. As registered developers, the calls and messages provided are officially recognised by Acorn.
- **Well documented** – It comes with a 32-page printed manual which includes both a primer and a detailed description of the facilities provided.
- **Reviewed** – Here's what the reviewers say:

RISC User, Jan/Feb '94: *"This program provides the kind of facilities which should have been built into the operating system in the first place. It is very easy to use, and I find it utterly invaluable. Anyone who has more than a handful of fonts should buy it without delay. It is superbly presented, operates flawlessly, and has become a permanent addition to my iconbar."*

Archive, Sept '93: *"The real pièce de résistance is the facility to scan documents and files and install the fonts required automatically. This is a dream to use. I have always found it frustrating that Impression would simply replace all uninstalled fonts with Trinity without even giving the option to abort loading the document. Draw would replace unrecognised fonts with the system font. Now that is all a thing of the past.*

I was very happy with Font Directory. I found it very easy to install and use with minimal reference to the manual... this is a highly intuitive application – a great deal of care and thought must have gone into its design and realisation. It integrates seamlessly with RISC OS and if you use a lot of fonts, you have to have Font Directory."

LOOK systems

Font Directory

A font filing system

Hundreds of outline fonts are now available for the Archimedes and new fonts are being produced all the time. This is all very well, but it does mean that using and managing fonts is becoming increasingly difficult.

What is Font Directory?

Font Directory is a radical approach to storing and using outline fonts within the RISC OS desktop. At its heart is a dedicated font filing system which provides the user with an unparalleled level of control.

Easy-to-use

Using techniques pioneered by LOOKsystems, Font Directory allows you to install fonts at the click of a button without the having to restart your application.

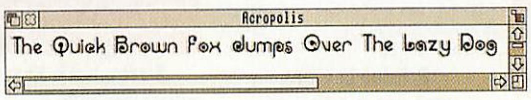


Just select the fonts in the FontList window and click on the 'tick' icon.

(If you wish, you can specify which fonts will be available on start-up and save favourite lists of fonts for later use.)

Font viewer

A preview window is available to help you decide which fonts you wish to install or just to remind you what a particular font looks like. If required, the text, size and colours used to display a font can be defined and even saved for later use.



Document scanning



The most powerful feature, however, has to be the ability to scan other applications' documents. When a document is dropped onto Font Directory, the fonts used will be made instantly available.

At last, no more 'font not found' errors!

FREE trial offer

Font Directory does a lot more than we can explain on a single page and so we are offering you the opportunity to try the software for free.



Just contact us at the address below and we will send you a complete pack. This can be returned within 10 days and you won't be charged a penny.

Otherwise, you can keep the software and we will invoice you for £35 inc VAT and UK P&P.

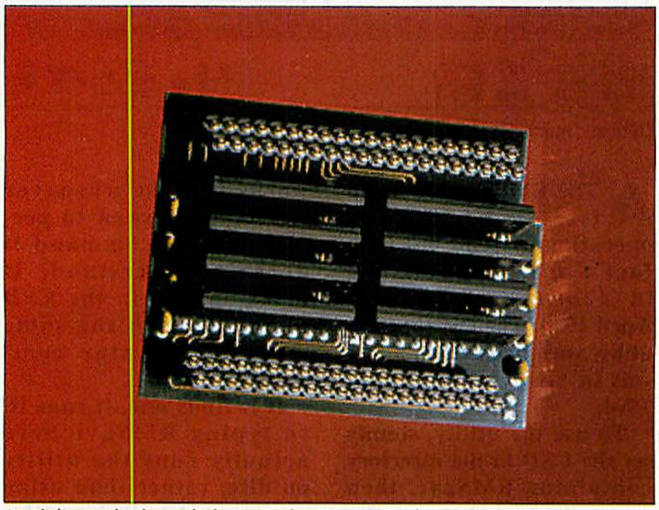
This offer only applies to UK residents.

LOOKsystems, 47 Goodhale Road, Bowthorpe, Norwich, NR5 9AY. Telephone: (0603) 748253. Facsimile: (0603) 764011.

A hard disc is recommended and you will need enough space to store all of your fonts. Most major applications and file formats are supported.

How to speed up a your A3020, numbering lives in Impression Replay films on tape streamers and more...

QUESTIONS & ANSWERS



It might not look much, but a Turbo Ram upgrade can transform your A3020

Q I bought an Acorn A3020 with a 60Mb hard disc approximately one year ago, and I have recently upgraded to 4Mb Ram. I am more than pleased with the machine, except for one area that I have noticed now that I am starting to use the machine more.

The problem is that my machine does feel a bit slow, so is there any way I can upgrade my A3020 to make both the general processing and printing speed quicker. I have an Integrex BetaJet inkjet printer.

B H Ball
Loughborough

A Unfortunately there is no easy way to upgrade an A3020 to a faster processor. The problem is that the processor provided in the machine is an Arm250, which is essentially an Arm2 processor packaged in the same box as the VIDC, MEMC and IOC chips.

This means the processor is cheap to manufacture, but it also means that you can't get at the Arm2 bit to upgrade it to an Arm3, and there is no such thing as an Arm350 – it simply wouldn't be economical to produce such a chip.

There are two options open to you. The first, and most expensive is to get a whole new machine: the cheapest Arm3 machine is the A5000, and upgrading to this would be fairly costly.

However, the upgrade path I would recommend is to get a Simtec Turbo Ram upgrade for £129 + VAT. We took a look at the Turbo upgrade back in July 1993, and the results on our A3010 were certainly impressive, increasing the processor speed from 7 Mips to about 10 Mips; a 25MHz A5000 runs at about 12.7 Mips for comparison.

The only drawback is that your existing 4Mb upgrade will become superfluous, but you can always try to sell it through the free ads section. For more details, contact Simtec on (0772) 812863.

Q I've got *Impression II*, and I want to type in a list of numbered items into a document. As I have about 20 pages of numbered items to input, I don't want to type them all in, only to find that I've accidentally missed one out and have to start all over again.

I could use page numbering to work out the number of each line, but that means having to have a specific number of items per page, and not all the items are the same size. Is there any way I can do this in *Impression*, or do I have to spend more money for a spreadsheet?

P Wright
Bristol

A Luckily, *Impression Style* contains a feature which will enable you to insert numbers just as you want. Go into the Utilities sub-menu, and then Insert (or just click on the Insert icon in the button bar).

Go into Initial number and choose the type of numeral you want: roman, arabic, letter and so on. Now type in the first number you want to insert – default is 1 – and type in your first item.

When you want to insert the second number, press CTRL-SHIFT-F9, and a '2' will appear. Next time, it will be a '3' and so on.

Not only will this enable you to enter incrementing numbers easily, but if you decide to insert a new item halfway through the list, then as long as you use CTRL-SHIFT-F9 to enter the number, all the incrementing numerals will be renumbered automatically. The same happens when you delete a numeral.

Q My experience of upgrading my A3000 to Risc OS 3.10 is that since it was fitted, there have been very few proprietary programs that I can run. Even with the Acorn User disc all I get is the response 'System resources cannot be found'.

The only programs I can use with confidence are View, ViewSheet and ViewStore: it is rare for these to crash. The worst culprit is Alarm from the Applications Disc. When I run it, the icon briefly appears, but shortly after I get gobbledegook and then the screen starts changing colours. No error message appears in this case.

So, I disagree with your comment that 'Risc OS 3 is stable, and there are few products which won't work on the system.'

I Smith
Edinburgh

A Two of your problems are easy to fix. The error 'System resources not found' means that your computer hasn't seen your *!System* application, so all you need to do is put your new Apps disc in the drive, and the error will go away. Make sure you use the new Apps disc, not the old Risc OS 2 one.

Also, you shouldn't be loading *Alarm* from disc on Risc OS 3: it's built in to the machine. Simply click on the Apps icon on the left of the iconbar, and run it from there. This won't cause problems, but running old applications from the old Apps discs will.

Other incompatibility problems can be down to hardware, such as IDE drives which might need upgrading, or software which should have been fixed. The golden rule is to contact the relevant companies and

make sure your version should work: you'll find that almost everything works if you have the right version.

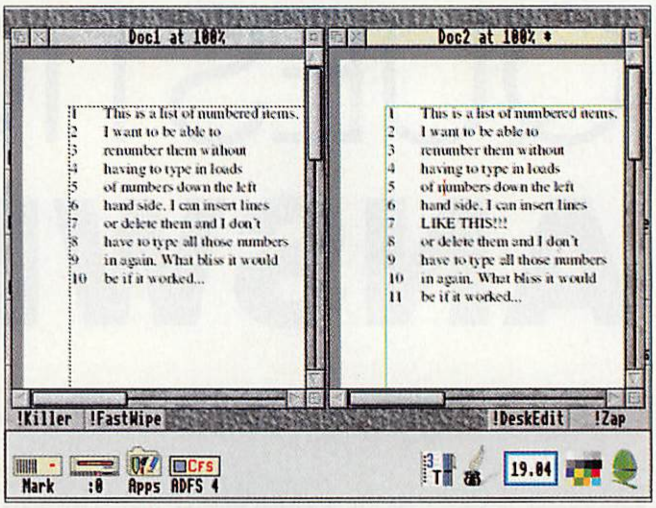
Q I'm thinking of getting a Replay-compatible board like Irlam's Replay DIY board, or the new Eagle M2 board from Wild Vision. What I want to know is whether it is practical to use a high capacity tape streamer to store and play back Replay files from.

M Mir
London

A The easy answer to your question is no. Tape streamers are far too slow to record Replay films. The minimum requirement for recording films is a fast processor and a fast SCSI drive.

Q I keep seeing the star command *RMSave mentioned in *Acorn User*, but whenever I try to enter this command to the command line, I just get the error 'File 'RMSave' not found.' How can I save modules to disc?

K Payne
Bracknell



Dynamic numerals in Impression Style

A The RMSave command isn't built into the operating system, but is in fact a utility published in *Acorn User* back in April 1993. The last time the utility was included on a disc was in *INFO in February 1994.

To use the utility, simply set the CSD to the directory containing RMSave, then press F12 and type the RMSave command. This works because whenever Risc OS is asked to perform a star command it doesn't understand, it looks on disc in the CSD for a file with the same name as the star command.

If it finds one, it runs it, so typing RMSave here actually runs the utility on disc, rather than using a command built into Risc OS itself.

Advice given

Finally, H Sutcliffe has written in to give some advice to those in dire straits with their mouse, as experienced by J Hughes in the January issue. Mr Sutcliffe writes:

'It was with interest I read the reply given for mouse problems in the January issue, and experiencing similar difficulties I tried the advice given, but without success.

'In desparation I removed the four screws underneath the mouse and, using a small brush, placed a small amount of *Nylon* lubricant (Holts rubber lubricant) on each pivot of the top plate to which the spring is attached. Mouse reassembled and problem solved.'

Thanks for that, Mr Sutcliffe.

If you've got a problem, drop us a line at Questions and Answers, Acorn User, Europress Enterprise Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP, and we'll do our best to answer.

Acorn Customer Hotline

Help and advice from Acorn's Technical support team

After looking after this column for almost two years the time has come to hand over to 'fresh blood' in the form of Dave Walker. Thanks to everyone who's written in over the past two years about the column. **Alan Glover**

Introductions dispensed with, I'll say 'thank you' to Alan, and wish him best of luck.

Monitors

It is possible to connect VGA and SVGA monitors to Archimedes equipped with RISC OS 3.1; however, only a subset of the total number of screen modes will be available. This means that some programs which are not written to be screen mode-independent will present an unusable display.

Acorn's multiscan monitors (the AKF50 and AKF52) can display all screen modes except Mode 23, which is designed for use with high resolution mono monitors. Monitors with a 15-pin VGA style connector can be connected to an older Acorn computer's 9-pin output using a suitable adaptor, available via your Acorn dealer.

After a power-on or machine reboot, your machine performs the Power-On Self Test (POST), which includes a complete memory and video test. Users with VGA and SVGA monitors, or owners of pre-Archimedes 540 machines who have fitted a VIDC Enhancer, may find that their machine fails the POST occasionally; some monitors take several seconds to synchronise, and some VIDC enhancers may start up with VIDC clocked at 36MHz when POST expects 24MHz. Errors generated by this test produce a blank red screen and a "morse code" pattern blinking on the floppy drive light.

You can disable the VIDC check and the long RAM test by setting bit 7 of byte 188 (&BC) in CMOS RAM. This can be done with a BASIC program:

```
SYS 6,161,188 TO ,,A%: REM read the value
SYS 6,162,188,(A% OR 1<7):  REM write it back with bit 7
set
```

If you need to perform a complete machine reset (delete-power on), you will have to run this program again to reset the relevant bit.

New Products and Upgrades

PocketFS version 2: £9.95. TCP/IP release 2 : £116.33 single-user, £59.95 (network version upgrade from release 1; return original disc with order); £39.99 (single-user version upgrade from release 1; return original disc with order)

VLSI Floating-point co-processor (FPA10) data sheet: £10. Prices include VAT, postage and packing.

Cheques should be made payable to "Acorn Direct". The products are available from: Vector Service,13 Dennington Road, Wellingborough, Northamptonshire. NN8 2RL.

15

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A5000 2Mb HD80..£1199.00
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A5000 4Mb HD160.£1399.00
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CD-ROM Drives

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SOFTWARE

Please phone for other titles if not listed

Application Software

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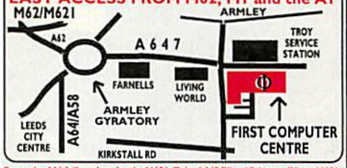
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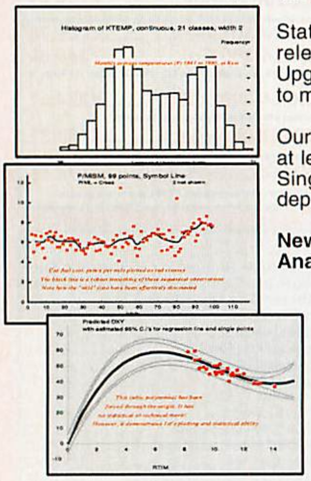
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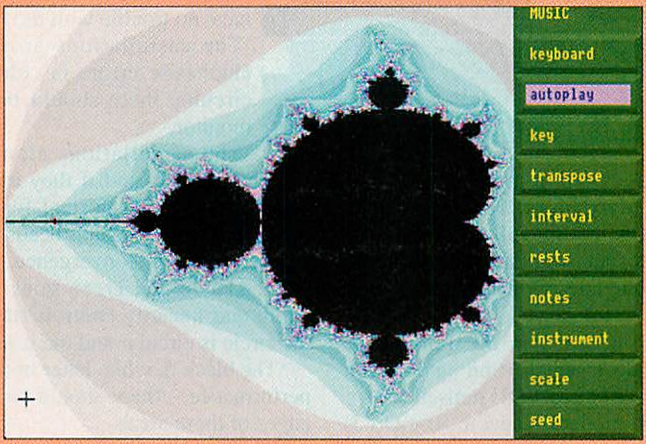
Dave Lawrence and Dave Acton present their monthly collection of programs, for all Acorn Users

THE MUSIC OF THE UNIVERSE

Composer, author Mike Smith tells us, is a program that encourages exploration of 'automatic' music-making using a variety of graphical images as generators. So polish up your crystals and tune into the cosmic vibes, man...

'The basic variables in music are the timing and pitch of the notes. By running a graphical sequence that plots an image relatively slowly as a series of dots, lines, squares or circles in different colours, we can make successive calls to a procedure to generate a series of notes that will be the aural equivalent of the visual display.

'By using fractal generators, such as the well known Mandelbrot and Julia sets, the sequence of notes will have varying tempo or note durations, and varying pitch given by the patterns of colour that tend to repeat, thus giving recognisable and distinctive forms to the "music" produced.'



Mike's program is controlled with the mouse, using a menu down the side of the screen. Select is used to choose an item, Menu takes you back to the previous menu and Adjust pauses/restarts the display and sounds.

The Mandelbrot option generates the familiar image using the standard 'tiling' algorithm. Julia uses any point on the current Mandelbrot set to generate the related fractal: position the cross and press Select to start.

Either set can be shown in more detail using the Zoom option.

A square box will appear on the screen which can be moved with the mouse, shrunk with Menu or enlarged with Adjust; Select restarts the sequence. The Bouncer and Brownian options offer simpler, random graphics.

Screens can be saved or loaded at any time. Note that a datafile is also saved for the Mandlebrot or Julia sets, allowing them to continue generation when re-loaded.

The Music menu offers complete control of how sounds are produced from the graphics. To begin, select Keyboard and use keys A-L and W-O for the sixteen intervals available. Space generates a sequence of random notes at the current tempo,. and RETURN allows you to go back to graphical mode.

The Autoplay feature allows any graphic screen to be sampled at a constant rate and 'played'. The built-in routines will stop and the screen sampled from top to bottom and left to right by a cross.

Notes will be generated according to the colour of each sample. Thus you can 'compose' by drawing a mode 15 graphic screen and loading it into *Compose*. Click on Autoplay again to return to normal operation.

Key allows the current key to be changed, flattened or sharpened. Transpose enables automatic transpositions (or changes of key) by an interval set by Interval. The transpositions can all be up, or all down, or at random, including octaves if required. The Octave setting gives the starting point and the full Arc sound range is used, albeit a bit tinny in the upper octave.

Rests allow more musical variety, especially in the fixed tempo modes. They can be structured, where every other nth note is a rest, or random, when one in every nth note may be a rest.

The Notes option gives various other parameters that can be adjusted, such as volume. This can be fixed at the level indicated, or allowed to vary automatically at random, but in a subtle way, giving gradual peaks and crescendos and nice quiet passages in between. The Sustain and Tempo options offer further room for experimentation.

The Instrument option allows any voice to be played, either on all eight channels as a Solo, or as a different voice on each channel to form an Orchestra. In addition to the nine built-in sounds, 12 more are loaded from disc.

Voices can be in mono or stereo when the eight channels are ranged across the full width, and notes can be played singularly with Arpeggio, as three-note triad chords, or as a mixture of both.

Scale offers a range of basic musical scales from which the notes are chosen.

If these aren't enough, you can enter your own user-defined scale as sixteen intervals in semi-tones.

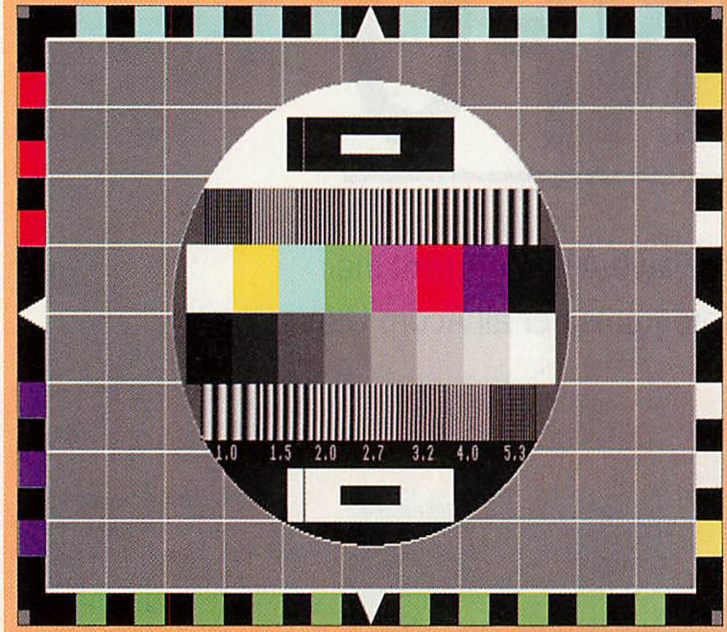
Finally, Seed, from the Music menu, allows you to seed the random sequence so a particular image will always give the same tune.

Mike concludes: 'I have to admit, it isn't Mozart, Bach, or even Donny Osmond that comes out of the speakers. It's more New-Age or mood muzak, that drifts around fairly aimlessly and pleasantly to accompany the pretty graphics.

However, you can experiment to your heart's content, and, I hope, enjoy the serendipity of the musically aware Archimedes.'

Author: Mike Smith

CLOSEDOWN



'Use this video test card to check your monitor or VCR performance' says its author, P E Marshall of *WorldTime* fame. Personally, I think this underestimates the full entertainment potential of the program. If any reader would care to write an Open University simulator then our late-night telly emulation suite would be complete.

Mr Marshall, who clearly knows a good deal more about monitors than I do (where do I switch it on again?) can best tell you how to get the most out of your VDU himself.

'The display makes use of screen mode 35 (new to Risc OS 3) which was designed specifically for video applications. The whole screen area is used and has the standard television aspect ratio of 4:3.

'For recording on to a VCR, an RGB to composite video adaptor is ideally needed; the A3010 has an RF modulator which may also be used at somewhat lower quality. Some Acorns have a composite monochrome output which can be used to check several important performance aspects.

'In the colour bars and grey-scale area, note the peak-white and near-black blobs in the white and black squares repsectively. Adjust the monitor brightness so that the near-black blob is just visible. If the peak-white blob is not visible, then crushing or clipping is taking place in the system somewhere – possibly the contrast setting is too high.

'The blocks of fine lines are resolution test gratings. These are used to measure the ability of a video system to display fine detail. The gratings here approximate to sine-waves (except for the 5.3Mhz section which had to be a square wave).

'Sine waves are kinder to a VCR – sharp edges tend to cause 'ringing' (often done deliberately to enhance definition). A good standard VHS machine will clearly resolve the 2.7 Mhz bars, but the 3.2 Mhz bars may be faint or not visible at all. A Super-VHS machine will have no trouble with the finer bars.

'The castellations around the edges are designed to emphasise errors in colour decoding and sync separator circuits: there should be no such problems on an RGB monitor.

'The castellations along the bottom edge may not be visible on a TV, and if they are, playback from a VCR may be broken up. This is normal for a domestic VCR: it's the point where the two recording heads switch over. The cross-hatch can be used to check convergence, in other words the registration of the red, blue and green guns in the picture tube. The height, width and linearity controls (if accessible) should be set so that the circle is circular and the squares are of equal size.

'The black & white letter boxes are for checking low frequency performance – there should be no streaking from the right-hand edges of these areas.

'Warning! Some of the controls needed to set a perfect picture are inside your monitor. Adjustment is not difficult, but unless you know exactly what you are doing *don't*! There are some dangerous voltages present, and twiddling the wrong controls could prove expensive.'

Author: P E Marshall

IDE FREE

Apparently this utility was inspired by a plea from N Morgan of Southampton in our Questions and Answers spot in November 1993.

It seems the new RISC OS 3 bar-style, free-space display was not available for his ICS IDE drive, but Mr Mansbridge has come to the rescue with a small application which installs a patch module.

When run, the application installs *IDEFree* in the Resource Filing System, in a directory called *Utilities*. It also sets up an alias which causes the *Free command (invoked when Free is chosen from an IDE hard disc menu) to be diverted to run *IDEFree* from the Resource filing system.

This causes the Risc OS 2 style-free window which normally appears to be replaced with a Risc OS 3 type display. This free display is updated in real time as disc operations are performed, just like the real thing.

In addition, clicking Menu over the IDEFree window gives you a single option, either Kilobytes or Megabytes. This toggles the units used to display the free memory (Megabytes is the default, but sometimes Kilobytes is more useful).

Author: P D Mansbridge

MOUSE TRAP

Many text editing and word processing programs remove the mouse pointer from the screen as soon as you start typing. This can be very useful, as a bright blue caret can often be quite distracting while trying to write. Lots of editors don't do this and Tony Patterson has seized the opportunity and written the Pointer Hider module.

This should be loaded by double-clicking or by adding the right command somewhere in your boot sequence. The module provides a single star command *PointerHide. Exit the desktop with F12, or start a task window with CTRL-F12 and enter this command, followed by RETURN.

On its own, with no parameters, it prints the current timeout (which will be unset to start with). If a parameter is given it sets the timeout to that number of seconds, and if the mouse is stationary for more than this given time it is removed from the screen. It will re-appear if you move the mouse or touch a button.

Ideally, of course, it would disappear when you started typing. If anyone wants to try their hand, you know where to send the results...

Author: Tony Patterson

FAB FOURIERS

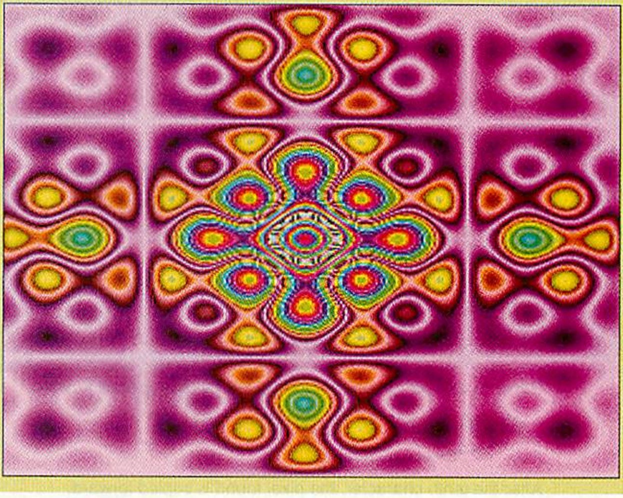


Back to one of our two regular continental Jans now for a beautiful demonstration of what a little maths can do. Fourier transforms crop up all over the place and the emergence of so-called Fast Fourier Transforms was an important step in computing history. Forget the maths though, because Jan proves that FFTs can be just plain pretty...

'The FFT of a 256x256 matrix is calculated. This is achieved by first calculating the 256-point FFT of each row and then by calculating the FFT of each column. The root of the sum of the squares of the real and imaginary part is then shown in colour. It takes about five seconds to perform this 'complex' calculation. Ten successive screens can be processed by pressing a key.

'You may wish to transform a screen of your own. This can easily be done by adding other codes to the CASE structure. By decreasing the value of the variable pw by one, the matrix is halved in size each way.'

Author: Jan Vlietinck



ARM250 SPEED CONTROL

Dominic has pointed out that some games written for Arm2 machines run too fast on machines fitted with an Arm250. As there is no *CACHE OFF command or equivalent, some games are therefore impossible to play.

The solution is *SlowDown*. Double-click on the application and tell it whether you have either of the Simtec turbo upgrades fitted (*SlowDown* accounts for these too, although more approximately).

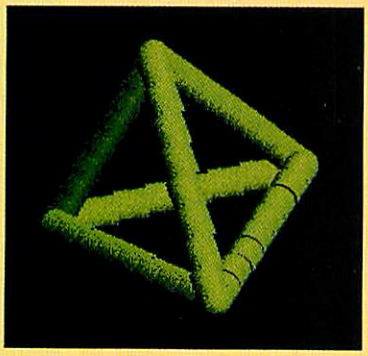
Hey presto, your machine has come down from the giddy heights of hyperspace and is running at Arm2 rates. *SpeedUp* returns your Arc to its rightful rate of MIPS.

Author: Dominic Nancekievill

MIND THE GAP

We have seen Alistair's work before, in the form of the wonderfully fast and smooth 3D spinning Sierpinski pyramid last month, so you should know what to expect from Tubes, especially as the result is still 3D and is still a pyramid.

In this program, Alistair draws us a spinning tetrahedron made up from solid 'tubes'. These are constructed from a line of overlapping shaded sprites. They are depth sorted to give the three dimensional effect, although don't look too closely at the corners. Colour palette cycling is used to enhance the overall effect.



Author: Alistair Turnbull

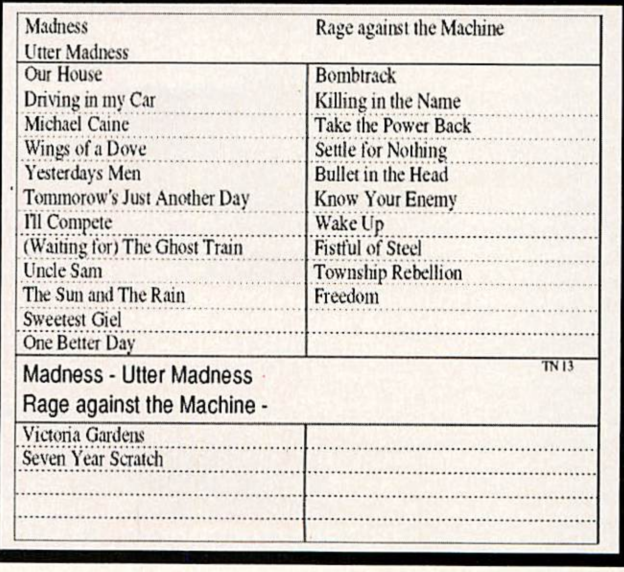
LABEL PRINTING

This useful little application takes all the fun out of trying to decode hand-written cassette inlay cards.

Full help is provided, but the program could not really be easier to use: type in the names of the tracks in the white areas, and the name of the artist and album in the grey boxes in the centre of the form.

You can also enter a 6 digit cassette number to help keep your tapes in order. (We estimate it would take about 114 years to listen to 999999 tapes, so 6 digits should be enough.) A save box is provided for keeping your inlays for posterity, but, most importantly, clicking on Print will dump the inlay to the current printer, the correct size for slicing up and, er, inlaying in your cassettes. Hmmm, it's almost a shame modern computers don't use audio tapes anymore...

Author: Mark Bright



Madness Utter Madness	Rage against the Machine
Our House	Bombtrack
Driving in my Car	Killing in the Name
Michael Caine	Take the Power Back
Wings of a Dove	Settle for Nothing
Yesterdays Men	Bullet in the Head
Tommorow's Just Another Day	Know Your Enemy
I'll Compete	Wake Up
(Waiting for) The Ghost Train	Fistful of Steel
Uncle Sam	Township Rebellion
The Sun and The Rain	Freedom
Sweetest Giel	
One Better Day	
Madness - Utter Madness Rage against the Machine -	TN13
Victoria Gardens	
Seven Year Scratch	

3D REVISITED

Since our coverage of Brian Creer's three dimensional image plotting program in the December issue, we have received a number of follow-up programs from other authors, the first two of which we present here.

Most people were impressed with the images but could not get to grips with 'drawing' the pictures using mathematical equations to describe the shapes.

A three dimensional editor would be a little tricky to write (although I'm sure someone will come up with an addition to *Euclid* to render images...) so Steve has provided us with a quick short cut.

His program expects a mode 15 sprite (640x256 in 256 colours) and creates either a mono or colour image in much the same way as Brian's original.

The important thing about this sprite is that the colour of a pixel determines its depth – colour 255 (white) translates to the background (furthest away) and colour 0 (black) to the foreground (closest to the viewer).

Admittedly the 'flat' images do look a little strange, but it does make the process of creating your own images possible.

Our second offering comes from newcomer Jan Vibe (don't worry Jan, only joking). His program uses the same technique as Steve's program, but instead renders a fixed (but random) image.

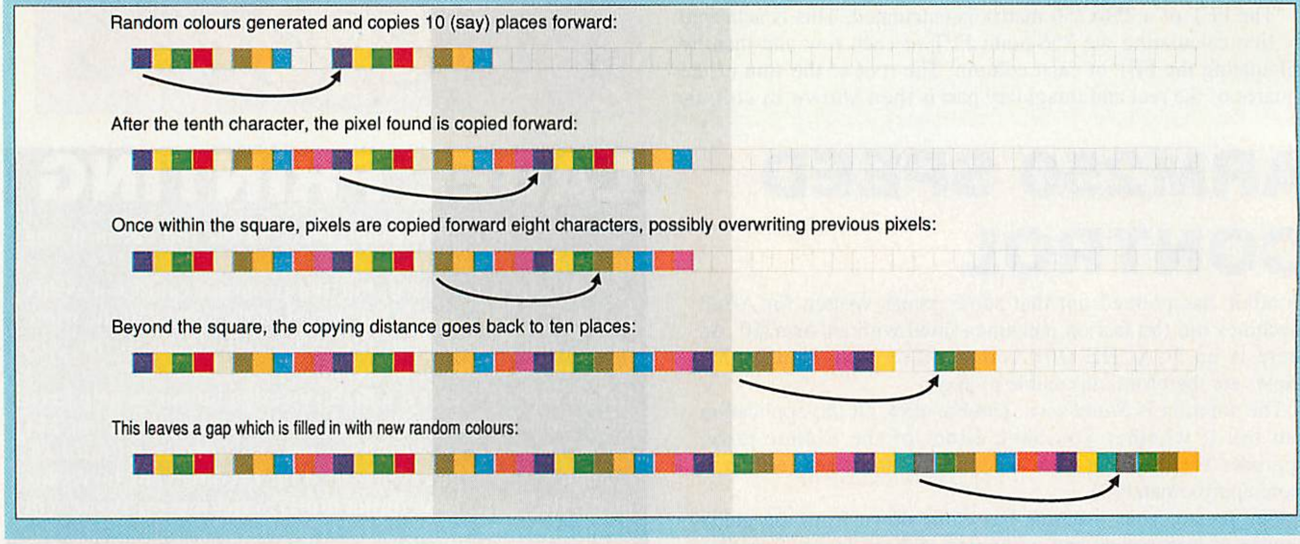
In the best Jan Vibe tradition this is a recursive tree. The tree is calculated and plotted on the screen as viewed from above, with the trunk in the distance and the branches in the foreground.

If the tree is not to your liking, press the Space bar and a new one will be plotted. When you are happy with a 'good' tree (interesting branch patterns, fits on the screen), press D to transform it into a hideous eye-bending expanse of dots – well, this is a Jan Vibe program after all, so just be glad it doesn't use colour cycling!

I have to admit that although I can 'see' commercial 3D pictures very easily, the ones we've printed in *Acorn User* have, until Jan's tree, eluded me. If you've had difficulty with the other pictures, try a 3D Danish Tree: the effect is really quite good.

We'd like to take this opportunity to include a *Draw* file that was meant to accompany Brian Creer's original 3D program, but was excluded because of lack of space. It explains pictorially how the principle behind these pictures works. For a description please refer to the December issue.

Authors: Steve Gutteridge, Jan Vibe



QUESTION TIME

We've had a question from Peter Appleton (apparently of 'Pinky Prods') about window iconisation in Risc OS 3.

Well Peter, according to the PRM, the iconisation protocol is simple. If Shift is being held down when a window is closed, the wimp broadcasts a Message_Iconize (&400B) message instead of closing the window.

The iconizing application (normally the pinboard) acknowledges this message and sends a Message-WindowInfo (&400CB) message to the owner of the window.

If there is no reply, the iconizer peforms its default action and tries to find a sprite called ic_name in the wimp pool. If this can't be found it uses ic_? and in either case the text under the icon is fetched from the Message_Iconize message.

If the application would like to change this default action it should reply to the Message_WindowInfo message, giving a sprite name and a textual string. This then allows text editors to display the file type of the iconized window and to name it as appropriate.

Message_Iconize (&400CA)
R1+20 window handle
R1+24 task handle of window owner
R1+20 20 bytes of title string

Message_WindowInfo (&400CC)
R1+20 window handle
R1+24 reserved, must be 0
R1+28 sprite name, max of 7 chars + null
R1+36 title string, will be truncated to 20 chars

Other messages are only needed by the iconizer. For completeness these are Message_WindowClosed (&400CB) which is broadcast when a window is closed, and Message_TaskCloseDown (&400C3) which should be spotted and all the icons associated with that task removed.

*QUIT

All offerings are most welcome. Put your masterpieces on a disk and send them to *INFO, Acorn User, Europress Enterprise Ltd, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Please write your name, address and program title on every disk and include a text file containing the same details. An SAE will ensure your disk's return. Instructions on how to use your program are also welcome and any extra details about how it works or how you came to write it may also come in handy.

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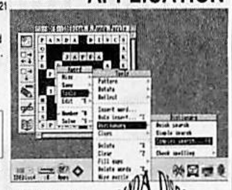
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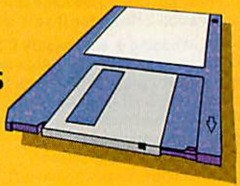
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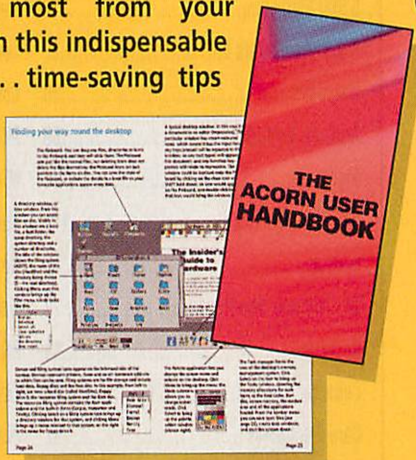
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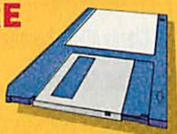
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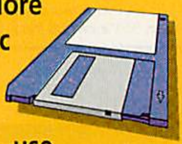
This classic game from leading games company, Fourth Dimension, combines flight simulation with gripping arcade action. Chocks Away sees you flying in a red Tiger Moth over landscapes and seascapes, blasting everything in sight. You can fly solo missions or with a friend: either way this rates as one of the all-time greats



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Chocks Away

Back in December 1990 The Fourth Dimension released *Chocks Away*, a game destined to become a classic among flying games on the Archimedes.

You take the part of a Tiger Moth pilot whose job is to rid the skies of enemy planes. Your two-seater bi-plane is armed with a single 30mm fuselage-mounted canon, making it a very effective fighting machine – in the right hands!

You must go on a number of missions – 20 in all – to destroy enemy installations, runways, planes and more. The plane is very easy to fly, and you don't have to spend ages learning complicated controls as found in most other flight simulation games: *Chocks Away* is designed to be fun to play, so you can start straight away.



Possibly one of the exciting options in Chocks Away is the ability to have a two player game, either dogfighting to death or sharing missions and helping each other.

In this mode, each player controls one half of the screen, and you can see exactly what the other player is doing as he or she does it. This can be quite fascinating if your friend is involved in a dogfight with an enemy plane, as you can watch everything and shout advice, helpful or otherwise.

Another excellent feature is the black box flight recorder, which records the details of a flight to disc, enabling you to replay past glories at the touch of a button. The game also includes a demo of some of the flashiest moves you can do with your bi-plane, all recorded using the black box.

Missions take you over sea and over land, and in the later, more difficult missions, you must learn to land on the tiny runways on aircraft carriers: something which looks easier than it really is.

However, your useful map and compass show you exactly where you are and what you need to destroy, and the ability to look all round your plane, as well as being able to look at your plane from the outside, give you more than enough information to complete all the missions and rise to the highest rank.

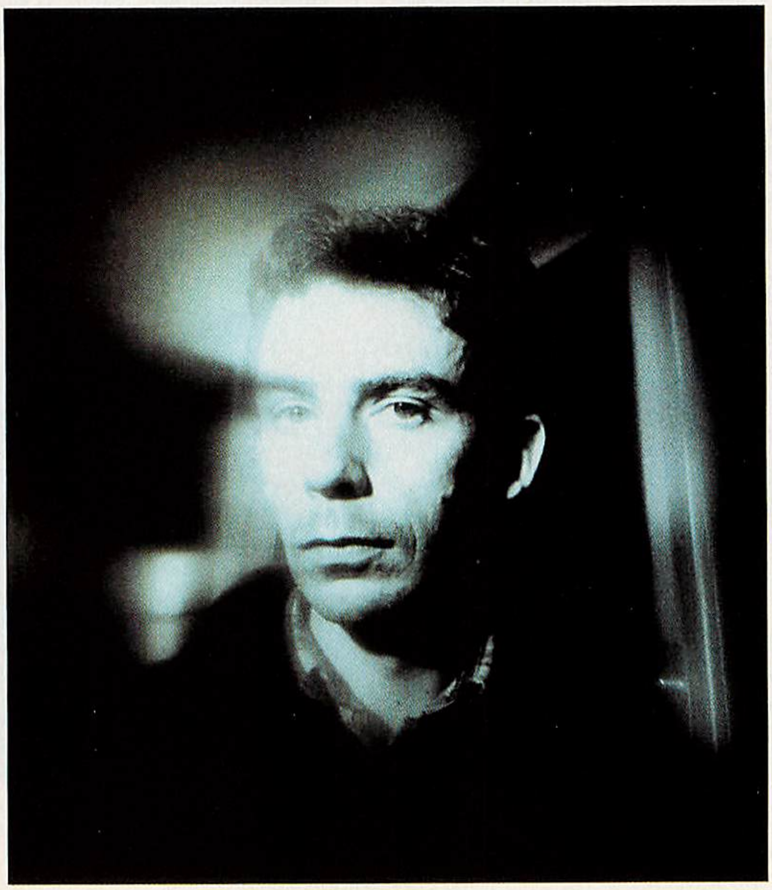
When we first reviewed *Chocks Away*, we said it had 'bags of charm and elegance' and concluded that '*Chocks Away* is a brilliant game'. It's as true today as it was then.

THE MOXON INTERVIEW

MARK COLTON

You'll no doubt have heard of *Fireworkz*, Colton Software's integrated package, but I bet you didn't know that Mark Colton – not surprisingly the brains behind Colton Software – has been nurturing plans for his integrated suite for well over ten years.

It's evident from talking to Mark that he looks back on the early days of Acorn with some nostalgia. From his days at Oundle School, where a young Mark Colton was being taught by a very progressive electronics teacher called John Coll – who wrote the User Guide for the original BBC micro – he's been involved in writing software that is ahead of its time.



ROBERT CLIFFORD

'The first version of *View*, the word processor, was actually written back in 1978,' says Mark. 'Back then it was just a screen editor, but that was something quite new in those days. It's just a shame that the computer I wrote it for had absolutely zero market share, otherwise it could have really taken off.'

'There are no real signs of innovation in the operating system'

He then went on to write the *View* family – *View*, *ViewSheet*, *ViewStore* and so on – between 1982 and 1985, under the auspices of Acornsoft, before writing one of the first integrated packages on the Acorn range, *View Professional*.

'I originally called it *Pipedream*,' Mark explains, 'but Acornsoft had other ideas and christened it *View Professional*. Then we developed *Pipedream* for the Z88, along the lines of *View Professional*, and were so proud of the product we decided it could be sold separately.

'That was how Coltonsoft was born: Rob Macmillan and I translated from Z80 code into C, and then released *Pipedream* for the PC and the Archimedes.'

The rest is history. First of all came *Pipedream*, then *Pipedream 2*, *Pipedream 3* and finally *Pipedream 4*. And out of all this experience in integrated packages was born the 'Z' series, consisting of *Wordz*, *Resultz* and *Fireworkz*. *Recordz* is due out this year, along with *Fireworkz Pro*, the culmination of the project.

So, it would seem, Coltonsoft is pretty dedicated to the Acorn market. But why has Mark taken the step of converting *Fireworkz* to run on the PC, in *Fireworkz for Windows*?

'Back in 1988 we were uncertain about the Acorn platform,' explains Mark, 'and I can honestly say that as early as 1987 I felt that Windows would be a great success. Our original intention was to market PC products, but it was so easy to convert the product to Risc OS – as it was written in C – we thought we might as well do it.

'We were persuaded by the success of the original version of *Pipedream* so we decided to keep going, and in 1989 the Risc OS version of *Pipedream 3* was launched as an immediate success.'

Interesting that: most software developers in the Acorn scene seem to be in it because they love the machines, are fascinated by the technology, and have an in-built hatred for the PC platform.

With Mark Colton, it's more an accident that he develops for Risc OS rather than Windows, and this gives him a less biased view of the marketplace.

'I have to say that I've been predicting the downfall of Acorn since around 1985,' claims Mark. 'Risc OS is an Acorn success, and the fact that it can stand up against Windows and System 7 shows how good it is. What worries me is that the first version of Risc OS was brilliant, but since it was launched back in 1989, we have seen no radical changes or updates to it.

'There are no real signs of innovation in the operating system, and the competition is huge. Risc OS is tied to the Arm processor, and when the Arm came out it was good, up there with the Intel 386. But Arm chips have fallen behind, and with the Power PC and DEC Alpha round the corner, it's going to be hard going.'

So what's created this problem?

'Microsoft have a credo,' says Mark. 'First, define your competitive advantage. Then tell everyone about it. And finally, don't put cost barriers in the way. When you can pick up a serious PC, with a 66MHz 486, 4Mb Ram, 260Mb hard drive for about £1000, I wonder if Acorn is guilty of breaking the third rule.

'On the other hand, it's always easy to run someone else's company.

Absolutely.

RISC user

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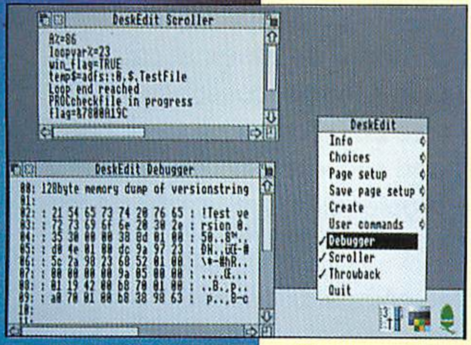


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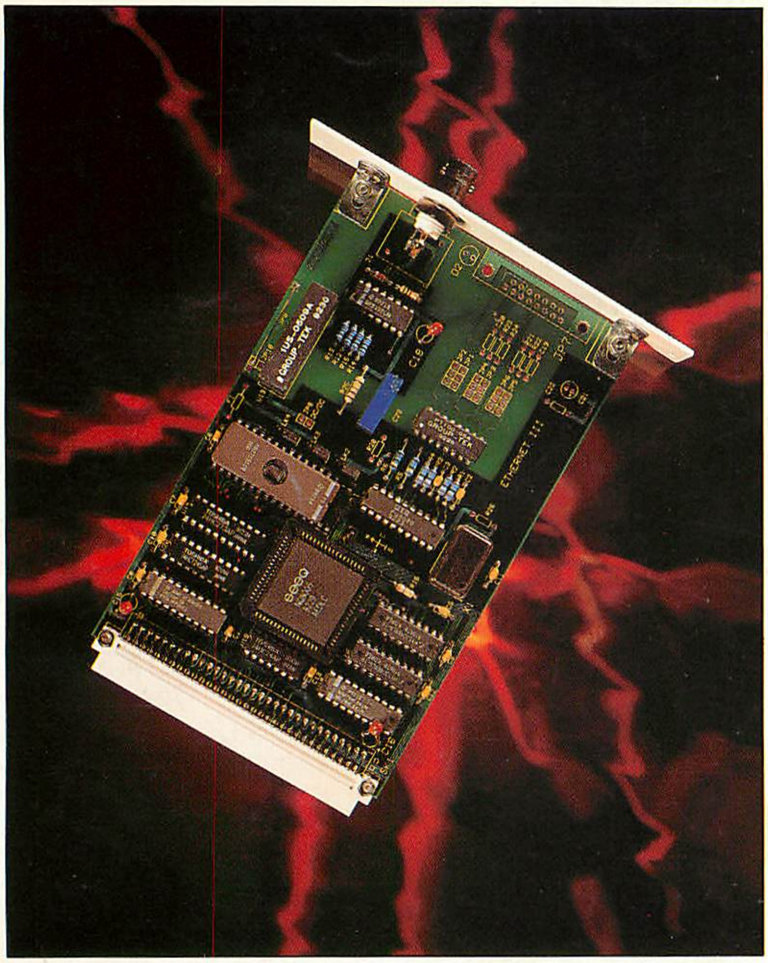
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